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ABSTRACT

This report builds on previous studies of early attrition from postsecondary education by providing a more comprehensive look at students' reasons for early total departure from postsecondary education. Using the 1996/1998 Beginning Postsecondary Students Longitudinal Study to examine attrition in the first 3 years of postsecondary education, the study addressed student background characteristics associated with departure without a credential from postsecondary education and the reasons students gave for their departure. The analysis included students at two-year and four-year institutions that were public or private not-for-profit. Almost one-third of students (32%) left without a credential within 3 academic years, but those who began at four-year institutions were less likely to leave than those who began at two-year institutions (17% to 19% as opposed to 35% to 44%). The percentage of students who left without a credential was greatest in the first year of enrollment, and smallest in the third year. Not all students actually planned to complete a degree. Of those who did, students who left without a credential gave a variety of reasons for their departure. They were more likely to say that they left because they needed to work or to give other financial reasons for their departure than to give other types of reasons. Ten percent said that they had completed their desired classes or that they had conflicts at home or personal problems, and only 4% identified academic problems as the cause of their departure. Reasons for leaving differed between students who started at a two-year and those who started at a four-year institution, with change in family status and need to work more likely to have affected leaving from a two-year college. Leaving because of academic problems was more common among students who did not have nontraditional characteristics. Two appendixes contain a glossary and technical notes. (Contains 36 tables, 10 figures, and 15 references.) (SLD)

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Short-term Enrollment in Postsecondary Education

Student Background and Institutional Differences in Reasons for Early Departure, 1996-98

Postsecondary Education Descriptive Analysis Reports

U.S. Department of Education
Office of Educational Research and Improvement
NCES 2003-153

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November 2002

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Executive Summary

This report builds on previous studies of early attrition[1] from postsecondary education by providing a more comprehensive look at students' reasons for early total departure from postsecondary education.[2] Using the 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98) to examine attrition in the first 3 years of postsecondary education, this study addresses two main issues: student background characteristics associated with departure without a credential from postsecondary education, and among students who did leave, the reasons they gave for their departure. With respect to both issues, this report focuses on understanding how the process of departure from college differs for students who begin at 2-year compared with 4-year institutions. The analysis includes only students who began at these two types of institutions, and it is also restricted to students at public or private not-for-profit institutions, rather than for-profit institutions. The following provides a summary of the key findings for each of the five main questions answered in the report.

What proportion of students left college without a credential and did not return in the first 3 years?

While almost one-third (32 percent) of beginning postsecondary students left without a credential within 3 academic years (figure A), students who began at 4-year institutions were less likely than those who began at 2-year institutions to do so (17–19 percent versus 35–44 percent).

The percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998 was greatest in the first year of enrollment and smallest in the third year of enrollment. Among students who began at public 4-year institutions, fewer left in the third year than in the first or second year of enrollment, but no differences were detected between departure rates in the first 2 years. No differences were detected by year in the percentages of students beginning at private not-for-profit 4-year institutions who left. The percentage of public 2-year college students who left school within the first year was larger than that from any other type of institution.

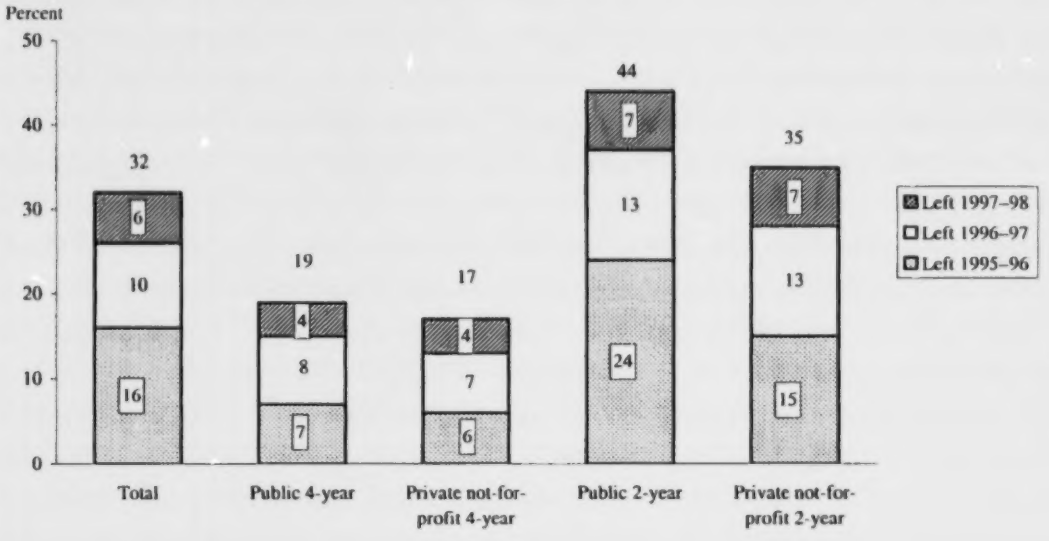
What factors were associated with early departure from postsecondary education by institution type?

A number of student characteristics were associated with departure from public 4-year, private not-for-profit 4-year, and public 2-year institutions. While many characteristics were

[1]In this report, "attrition," "departure," and "leaving college" all refer to 1995–96 beginning postsecondary students departing without receiving a credential and not returning by spring 1998. This pattern is also described as "early attrition" or "short-term enrollment."

[2]Total (or system) departure, in which students leave postsecondary education altogether, is distinct from institutional departure, in which students leave one institution but enroll at another (Tinto 1993). This report only examines departure from postsecondary education entirely (i.e., total departure).

Figure A.—Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type and last year of attendance



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

associated with departure from all three types of institutions, some differences were detected only among students from public and private not-for-profit 4-year institutions.

Students' Educational Expectations

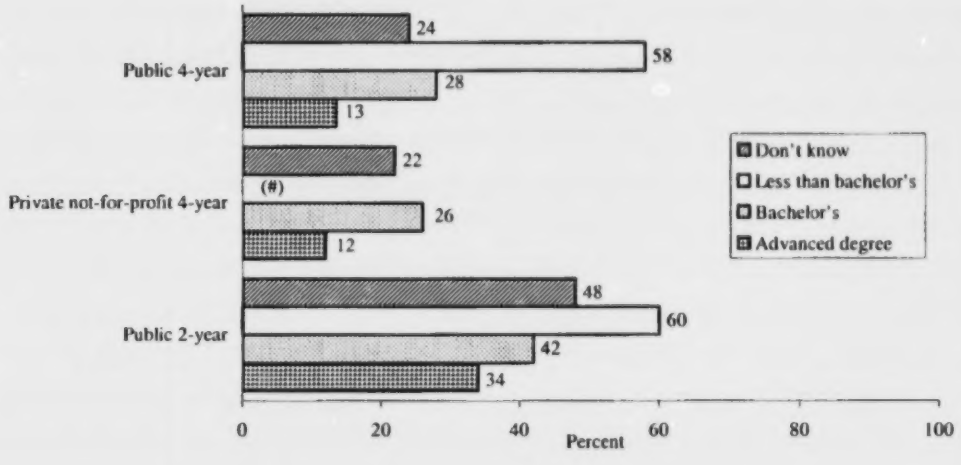
Not all students plan to complete a degree when they enter college. Among all beginning postsecondary students in 1995–96, the expectations and objectives of students who began at public 2-year institutions differed from those of students who began at 4-year institutions. Even among students who began at public 2-year institutions, educational expectations were relatively high (i.e., higher than could be accomplished at a 2-year institution): 33 percent eventually expected to complete a bachelor's degree, and another 29 percent expected to complete an advanced degree, i.e., a degree beyond the bachelor's. But students who began at public 2-year institutions were less likely than students who began at 4-year institutions (59 percent at both public and private not-for-profit 4-year institutions) to expect to complete an advanced degree. They were also more likely to expect that their eventual educational attainment would be *less* than a bachelor's degree (16 percent versus 1–2 percent of those who began at 4-year institutions). Finally, students who began at community colleges expressed a range of reasons for enrolling at such an institution: 38 percent indicated that they chose that institution to prepare for transfer to a 4-year college or university; 22 percent chose the institution to gain job skills; and another 16 percent enrolled for personal enrichment.

Among students at all three types of institutions, both the eventual educational

expectations of students and their initial degree objectives at the first institution attended were associated with departure from postsecondary education within 3 years. Among students who identified the level of education they ultimately expected to complete, those who identified higher expected levels of education were less likely than those who identified lower expected levels to leave college (figure B). In addition, those who did not know their expected eventual educational outcome were more likely than those who expected to complete advanced degrees to leave within 3 years.

Furthermore, initial degree objectives from the *first* institution at which the student enrolled were associated with departure from postsecondary education among students at all three types of institutions, with lower objectives generally associated with a higher rate of departure. For example, among students who began at public 4-year institutions, 40 percent of those whose degree objectives at their first institution did not include a bachelor's degree left postsecondary education within 3 years, compared with 16 percent of those who did plan to get a bachelor's degree there. This relationship was found even after taking into account many other factors associated with departure.

Figure B.—Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by education expectations and first institution type



#Too small to report.

NOTE: Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Other Characteristics

Lower academic performance during the first year of enrollment was associated with a higher rate of attrition at all three types of institutions, even when taking into account other factors related to departure from postsecondary education. Transfer between institutions and changes in number of dependents from their initial entry into college until 1998 were also associated with their departure among students who began at public institutions, even when other variables were taken into consideration. Those who transferred to another institution were less likely to have left college. In addition, students from all three types of institutions who had more dependents in 1998 than when they began college had higher rates of attrition than those who never had dependents. For example, among students who began at public 2-year institutions, 61 percent of those who subsequently had children left college by 1998, compared with 37 percent of those who never had children. Thus, changes such as these that can occur during students' postsecondary enrollment may supersede the effects of their initial enrollment characteristics.

Furthermore, when examining nontraditional student characteristics,[3] students with nontraditional characteristics were often more likely to leave within 3 years than their counterparts without these characteristics. For example, among students who began at public 4-year institutions, those who delayed postsecondary enrollment more than a year after high school were more likely than those who had gone directly to college (33 versus 15 percent) to depart. Among students who began at private not-for-profit 4-year colleges and universities, 62 percent of those who had ever been married when first enrolled had departed within 3 years without a credential, compared with 15 percent of those who had never been married. At public 2-year institutions, students who worked part time or did not work while they were enrolled were less likely than those who worked full time (33 and 43 percent, respectively, versus 59 percent) to leave college. These relationships were found even when taking into account other factors associated with departure.

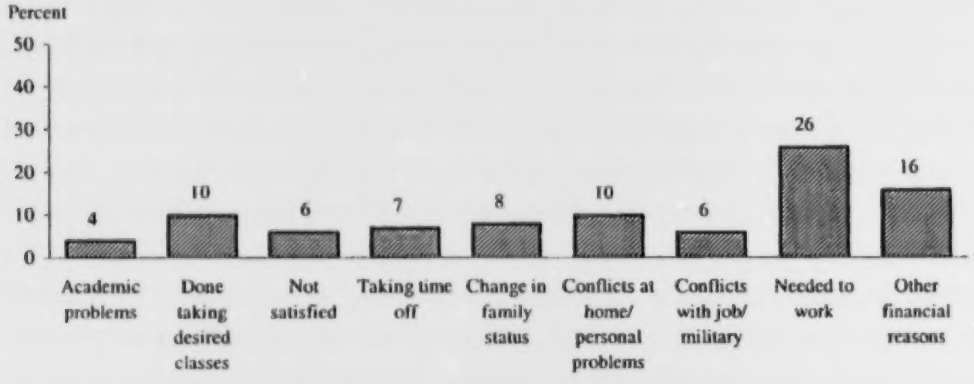
Some characteristics, however, were associated with departure from 4-year institutions, but not public 2-year institutions. Students facing a lower price of attendance were more likely to depart from 4-year institutions, while this relationship was not found among students who began at public 2-year institutions after taking other factors into account. In addition, among students who began at 4-year institutions, attending colleges with higher graduation rates was associated with lower attrition. However, this relationship was not detected among students who began at public 2-year institutions.

What reasons did these short-term enrollees give for their departure?

The 1995–96 beginning postsecondary students who left by 1998 without a credential gave a variety of reasons for their departure (figure C). Students were generally more likely to say that they left because they needed to work or to give other financial reasons for their departure than to give other types of reasons. About one-quarter (26 percent) of short-term enrollees cited needing to work as a reason for their departure, and 16 percent identified other financial reasons. Ten percent said that they had completed their desired

[3]Nontraditional student characteristics include the following: being 24 years old or older, delaying postsecondary enrollment by more than a year after high school, enrolling less than full time, being independent, working full time, being currently or previously married, being a single parent, having dependents, or not having a regular high school diploma.

Figure C.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure



NOTE: Respondents could give up to three reasons, including other reasons not listed here. Sixty-one percent identified only one of these reasons, and 24 percent did not cite any of these reasons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

classes or that they had conflicts at home or personal problems; 8 percent cited a change in their family status; 7 percent said they were taking time off from their studies; 6 percent reported that they were not satisfied or that they had conflicts with their jobs; and 4 percent identified academic problems as a cause of their departure.

Among students who left, those who began at 4-year institutions were more likely than those who began at public 2-year institutions to say that they left because of academic problems (9 versus 2 percent) or a change in family status (12 versus 6 percent). Those who began at public 2-year institutions were more likely than those who began at 4-year institutions to say they left because they were done taking the classes they wanted (12 versus 5 percent) or because they needed to work (29 versus 17 percent).

What other characteristics of short-term enrollees were associated with their reasons for departure?

Among beginning postsecondary students who left early, women were more likely than men to say that they left because of a change in family status or because of conflicts at home or personal problems. In contrast, men were more likely than women to say they left because of academic problems or because they needed to work. Higher income students who left were less likely than their lower income counterparts to say that they left because of a change in family status. In addition, students in the middle two income quartiles were more likely than those in the highest quartile to leave because they needed to work (30 versus 13 percent).

Although short-term enrollees cited academic problems relatively infrequently as a reason for their departure, the evidence above showed that first-year grades were consistently associated with

early attrition in all institution types. There was some evidence that students without nontraditional characteristics were more likely than those with these characteristics to cite academic problems as a cause of departure from postsecondary education. Students who enrolled full time during their first year were more likely than students who had mixed patterns of attendance or who attended part time to report academic problems as a cause of their early departure (7 versus 0.2 and 2 percent, respectively). In addition, short-term enrollees who worked more hours while enrolled during their first year of postsecondary education were less likely than those who worked fewer hours to say they left because of academic problems.

Were differences in reasons for departure by institution type found after controlling for other characteristics?

The results suggest that the reasons for leaving differ between students who began at public 2-year institutions and those who began at 4-year institutions. These differences may be related to the different student populations at 2-year compared with 4-year institutions. For example, reasons given for departure varied between students with and without various nontraditional characteristics, and these students also differed with respect to the types of institutions in which they began their postsecondary education. Students with nontraditional characteristics (such as not having a regular high school diploma or being financially independent) who left were less likely than students without these characteristics to report that they left because of academic problems, as did short-term enrollees who began at 2-year institutions compared with those who began at 4-year institutions. On the other hand, students with nontraditional characteristics who left postsecondary education without a credential were more likely than those without these characteristics to say they were done taking the classes they wanted, as were short-term enrollees who began at public 2-year institutions compared with those who began at 4-year institutions. Among all beginning students as well as among those who left early, students from public 2-year institutions were more likely than those from 4-year institutions to have nontraditional student characteristics.

After taking into account other factors associated with various reasons for departure, short-term enrollees who began at public 2-year institutions were still less likely than those who began at 4-year institutions to say they left because of a change in family status and more likely to say they left because they needed to work. In the multivariate analyses, no differences were found in the rates at which short-term enrollees from different types of institutions reported leaving because of academic problems or because they had completed the classes they wanted. However, in both cases, initial degree objectives were related to leaving: those who planned to complete a bachelor's degree at their first institution were more likely to leave for academic reasons than those who planned to complete an associate's degree, and those who did not plan to obtain any credential from their first institution were more likely than others to leave because they were done taking the classes they wanted.

Other Results

Among students who left college within 3 years of first enrollment, some of the reasons they gave were consistent with their characteristics. For example, middle-income students were more likely than high income students to say they left because they needed to work. Students who had

never intended to complete a credential of any kind from the institution where they began were more likely than those seeking a degree or certificate to indicate that they left because they were finished. However, this reason was not given by even a majority of those with no degree goals, suggesting that other factors may have deterred them.

Relatively few student characteristics were associated with leaving because of a change in family status. However, students who had more dependents in 1998 than when they began postsecondary enrollment were more likely than others to say they left because of a change in family status. In addition, women were more likely than men to cite this cause. These results are consistent with other literature on this reason for leaving college (Bonham and Luckie 1993).

While academic problems were not frequently cited as a cause for student departure, students who had lower grades were more likely to give this reason than those with higher grades. However, this relationship was not found once other factors were taken into account. In the multivariate model, not working while enrolled and full-time enrollment were associated with leaving for academic reasons. These results suggest that leaving because of academic problems is more common among students who do not have nontraditional characteristics.

Foreword

This report describes short-term enrollment in postsecondary education—that is, students who left within 3 academic years of their first entry into postsecondary education without earning a credential and without returning. Factors associated with departure in the first 3 years are examined separately for students who began their postsecondary education in public 4-year, private not-for-profit 4-year, and public 2-year institutions, including multivariate analyses of departure for these three groups. In addition, this report examines the reasons that students who left gave for their departure. It also explores how these reasons are related to background characteristics such as demographic, academic, financial aid, and institutional characteristics.

This report uses data from the 1996–98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98). The BPS survey is the longitudinal component of the 1996 National Postsecondary Student Aid Study (NPSAS:96), a nationally representative sample that includes students enrolled in all types of postsecondary institutions, ranging from 4-year colleges and universities to less-than-2-year vocational institutions. The BPS:96/98 cohort consists of students who enrolled in postsecondary education for the first time during the 1995–96 academic year. The cohort was followed up in spring 1998. This and other reports using this data set can be accessed and downloaded from the NCES Web Site (*nces.ed.gov*).

The estimates presented in the report were produced using the NCES Data Analysis System (DAS), a microcomputer application that allows users to specify and generate tables, for the BPS:96/98 study. The DAS produces the design-adjusted standard errors necessary for testing the statistical significance of differences among estimates. Researchers are encouraged to use the BPS:96/98 data for their own analysis as well. For more information on the DAS and analysis with BPS:96/98, readers should consult appendix B of this report.

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Table of Contents

	Page
Executive Summary	iii
Foreword	x
Acknowledgments	xi
List of Tables	xiv
List of Figures	xviii
Introduction	1
Data and Measurement Issues	3
Organization of This Report	4
Early Attrition From Postsecondary Education	7
What Proportion of Students Left College Without a Credential and Did Not Return Within 3 Years?	7
What Factors Were Associated With Early Departure?	8
Summary	49
Reasons for Early Departure	51
What Reasons Did Short-Term Enrollees Give for Their Departure?	51
What Factors Were Associated With Reasons for Early Departure?	53
Did Institution Type Differences in Reasons for Early Departure Persist?	63
Summary	74
Conclusion	77
References	79
Appendix A—Glossary	81
Appendix B—Technical Notes	93

List of Tables

Table		Page
1	Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type	7
2-A	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by student background characteristics	9
2-B	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by student background characteristics	10
2-C	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by student background characteristics	11
3-A	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by nontraditional student characteristics	13
3-B	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by nontraditional student characteristics	14
3-C	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by nontraditional student characteristics	15
4	Percentage of employed 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type and primary role while employed in 1995–96	17
5-A	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by academic characteristics	21
5-B	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by academic characteristics	23

Table		Page
5-C	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by academic characteristics	24
6-A	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by financial aid characteristics	26
6-B	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by financial aid characteristics	27
6-C	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by financial aid characteristics	28
7-A	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by institution-related characteristics	29
7-B	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by institution-related characteristics	31
7-C	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by institution-related characteristics	32
8-A	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by change in family and education circumstances by 1998	33
8-B	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by change in family and education circumstances by 1998	34
8-C	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by change in family and education circumstances by 1998	35
9	Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics	37

Table		Page
10	Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics	41
11	Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics	45
12	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by first institution type and last year of enrollment	52
13	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by student background characteristics	54
14	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by nontraditional student characteristics	56
15	Percentage of employed 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by primary role while employed in 1995–96	57
16	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by academic characteristics	58
17	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by financial aid characteristics	60
18	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by institution-related characteristics	61
19	Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by change in family and education circumstances by 1998	62
20	Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because of academic reasons, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics	67
21	Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they were done taking the classes they wanted, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics	69

Table **Page**

22 Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because of a change in family status, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics 72

23 Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they needed to work, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics 73

Appendix Tables

B1 Standard errors for table 1: Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type 95

List of Figures

Figure **Page**

Executive Summary Figures

A Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type and last year of attendance iv

B Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by education expectations and first institution type v

C Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure vii

Text Figures

1 Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type and last year of attendance 8

2 Percentage distribution of 1995–96 beginning postsecondary students according to initial educational goals, by first institution type 18

3 Percentage distribution of 1995–96 beginning students at public 2-year institutions according to primary reason for enrolling in a community college 19

4 Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by education expectations and first institution type 20

5 Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure 52

6 Percentage distribution of 1995–96 beginning students who left without a credential according to initial educational goals, by first institution type 64

7 Among 1995–96 beginning postsecondary students and those who left without a credential within 3 years, percentage who had nontraditional characteristics, by first institution type 65

Introduction

Among new entrants to postsecondary education, departure without a credential is most common in the first years of enrollment (Tinto 1993). While many of these students later return to postsecondary education and complete certificates or degrees, others do not re-enroll (Horn 1998). Students at public 2-year institutions leave postsecondary education in the early years at higher rates than students in 4-year institutions, even when controlling for background and educational expectations (Tinto 1993). Although institutions themselves, and their impact on students, are considered to be important in the process of college completion (Tinto 1993; Astin 1993), the vast literature on attrition (e.g., Tinto 1993; Mallete and Cabrera 1991; Bean 1980) recognizes that the process of departure from postsecondary education may differ for community college students and students at 4-year institutions (Dougherty 1994; Feldman 1993; Conklin 1993).

Despite extensive exploration of various factors that are associated with attrition, there has been relatively little study of students' own accounts of their reasons for leaving college. The studies that have been conducted are generally case studies of individual institutions, which are not generalizable to the national student population. Their wider applicability is further limited by their nearly exclusive focus on community colleges (e.g., Bonham and Luckie 1993; Conklin 1993; Lee 1996).

Using the 1996–98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98), this report poses two questions: what student background characteristics are associated with departure from postsecondary education without a credential; and among those who do leave, what reasons do they give for their departure? In addition, both questions focus on understanding how the process of departure from college differs for students who began at 2-year institutions rather than 4-year institutions.

The literature on postsecondary attrition and persistence is extensive and has revealed many factors consistently associated with departure. Such factors range from student demographic characteristics, to academic performance and enrollment characteristics, to factors related to the institutions students attend (Tinto 1993). The most comprehensive models of persistence in or attrition from college focus on the complex ways in which institutional conditions interact with students' backgrounds and experiences (Astin 1993; Tinto 1993). For example, students' academic and social integration into campus life and their satisfaction with

the institution are important in the process of attrition (Bean 1980). Students' educational plans may change as a result of their experiences at college, and other changes in students' personal circumstances may affect their propensity to leave college (Astin 1993; Tinto 1993). In addition, students' ability to pay has been found to increase their persistence in college (Cabrera, Stampen, and Hansen 1990).

The literature that describes the reasons departing students leave college, according to their self-reports, is less comprehensive and is based largely on case studies of individual institutions, particularly community colleges (e.g., Lee 1996; Moore 1995). A survey of these reports reveals that students identify reasons ranging from the most common across institutions, such as financial difficulties or work conflicts, to those that may be specific to the institution, such as insufficient parking (Luan 1996). Several reasons that have appeared in multiple case studies include financial problems, work conflicts, and changes in marital or parental status (Lee 1996; Moore 1995; Adams 1994; Conklin 1993; Bonham and Luckie 1993). These studies, while useful for individual institutions, do not provide any description of nationwide patterns or a baseline for comparing individual institutions.

In addition, many of these studies either do not explore how these reasons vary by students' characteristics and experiences or include only a few student characteristics in their analyses. The relationships that have been observed suggest that the reasons students give for leaving college may be associated with many factors. For example, a change in their marital or parental status might be particularly salient for women, for whom there are greater expectations regarding family responsibilities (Bonham and Luckie 1993). In contrast, men may be more likely to leave because they need to work (Lee 1996). Students who enroll part time may be particularly likely to have short-term nondegree goals and leave because they have achieved those goals (Lee 1996). These results, while not generalizable to a wider population, suggest some relationships that may be observed with more representative data.

This report examines factors that are associated with departure from postsecondary education as well as the reasons that departing students themselves give to account for this attrition, paying particular attention to differences between 2-year and 4-year institutions. Specifically, this report addresses the following questions:

- What proportion of students left college and did not return in the first 3 years, and how was this departure related to the type of institution where they began their studies?
- What factors were associated with early departure from postsecondary education among those who began at public 4-year, private not-for-profit 4-year, and public 2-year institutions?

- What reasons did these short-term enrollees give for their departure, and how were these reasons associated with the type of institution that students first attended?
- What other characteristics of short-term enrollees were associated with their reasons for departure?
- Were differences in reasons for departure by institution type found after controlling for other characteristics?

Data and Measurement Issues

The 1996–98 Beginning Postsecondary Students Longitudinal Study (BPS) is well suited to examine attrition in the first 3 years of postsecondary education. This data set consists of a nationally representative sample of all students who first enrolled in postsecondary education in the 1995–96 academic year, with a follow-up conducted 3 academic years later in spring 1998. This data set is particularly useful for investigating total departure,[1] in which a student withdraws from postsecondary education entirely, as distinct from institutional departure, in which a student may leave one institution but enroll in another (Tinto 1993). Influences on and reasons for these distinct types of departure are likely to vary, but institutional case studies of attrition and reasons for it are unable to distinguish the difference. Thus, this report focuses on the phenomenon of total departure, an area in which the BPS data set has a strong advantage. Both "departure" and "attrition" are used to refer to this process in this report. Students who leave without a credential are described as "departing students" or as "short-term enrollees." This group includes some who achieved their postsecondary goals even without a degree or whose departure is only temporary—both groups that may not be appropriately referred to as dropouts—in addition to others who have abandoned or changed their objectives.

The initial component of the analysis explores factors associated with attrition during this time period and therefore includes all students. The outcome of interest here is whether students left postsecondary education without a credential between the base year and first follow-up interviews and did not return during this period. Of course, it is possible that some of the students who left postsecondary education during this time, particularly those who left later during the study period, are in fact stopouts—temporary dropouts who will return to college later (Horn 1998). Students who stopped out and returned by the time of the first follow-up (that is, known stopouts) are not included with short-term enrollees in this analysis. On the other hand, finding that a majority of the community college students they studied planned to return to school at some point in the future, Bonham and Luckie (1993) postulated that further changes may take place such that "intended stopouts [may become] actual dropouts" (p. 260). Because

[1]Total departure, in which students leave postsecondary education altogether, is also referred to as "system departure" (Tinto 1993). This report refers to total departure.

the time frame of the BPS data collection is relatively short for capturing students who may later return, this potential overlap with stopout behavior should be kept in mind.

The subsequent analysis is restricted to students who left postsecondary education and had not returned in the 3-year period, and examines their reasons for doing so. Bonham and Luckie (1993) pointed out that a "web of circumstances," rather than a single cause, is often more accurate to describe why students leave college (p. 259). Most studies of reasons for departure allow respondents to indicate multiple reasons for leaving, and BPS, which allowed respondents to indicate up to three reasons for leaving college, is no different. Fourteen specific reasons were identified in BPS, along with an "Other" reason option, for respondents who had left college without a credential and without returning by the time of the first follow-up. The most common nine reasons are included in the public-use Data Analysis System (DAS) used to conduct the analyses for this report.[2]

Most of the analyses in both sections of the report are conducted on subsamples, either by institution type or by departure status. This approach considerably limits the base sample upon which percentages can be calculated, and thus inflates the standard errors used in statistical tests, decreasing the tests' ability to detect small population differences. Therefore, only the institutional sectors that serve large numbers of postsecondary students are included. The analysis includes only students who began at 2-year or 4-year degree-granting institutions and does not include those who started at less-than-2-year institutions (although students at 2-year and 4-year institutions may be seeking credentials below the highest level offered at their institution). It is also restricted to students at public or private not-for-profit institutions, rather than the for-profit sector. These limitations permit comparisons within institution type and also focus comparisons across sectors. In addition, most of the analyses also exclude students who began their postsecondary education at private not-for-profit 2-year institutions (due to small sample sizes that preclude detailed analysis among these students).

Organization of This Report

The remainder of this report is organized as follows. The next section examines early departure from postsecondary education, first by determining the prevalence of early attrition for the 1995–96 beginning postsecondary students as of spring 1998 and then by making comparisons by institution type. Next, other background characteristics that may be associated with short-term enrollment are explored, including demographics, nontraditional student

[2]Other reasons identified in the survey were the following: classes not available or scheduling not convenient, school or program closed or lost accreditation, deciding on a different program of study, enrollment doesn't suit lifestyle, and pursuing other interests. The "Other" reason category is also not included in this report.

characteristics, academic factors, financial aid, institutional characteristics, and changes in educational plans and family status. These factors are considered separately for students who began in public 4-year, private not-for-profit 4-year, and public 2-year institutions. Multivariate analyses of departure for each institution type conclude the section. The subsequent analyses are restricted to those students who left postsecondary education without a credential and did not return by 1998. This section addresses the reasons cited by students for their departure and investigates how these reasons vary by institution type. It then considers the same background factors in relationship to the reasons cited by short-term enrollees. The report concludes with multivariate analyses of those reasons that differed by institution type.

What Proportion of Students Left College Without a Credential and Did Not Return Within 3 Years?

About one-third (32 percent) of beginning postsecondary students had left without a credential within 3 academic years (table 1 and figure 1). Students who began at 4-year institutions were less likely than those who began at 2-year institutions to do so (17–19 percent versus 35–44 percent).

Table 1.—Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	31.7	15.9	10.3	5.5
First institution type				
Public 4-year	18.8	7.3	7.5	4.1
Private not-for-profit 4-year	17.2	6.4	6.8	4.0
Public 2-year	43.6	23.9	13.0	6.8
Private not-for-profit 2-year	34.7	15.3	12.7	6.8

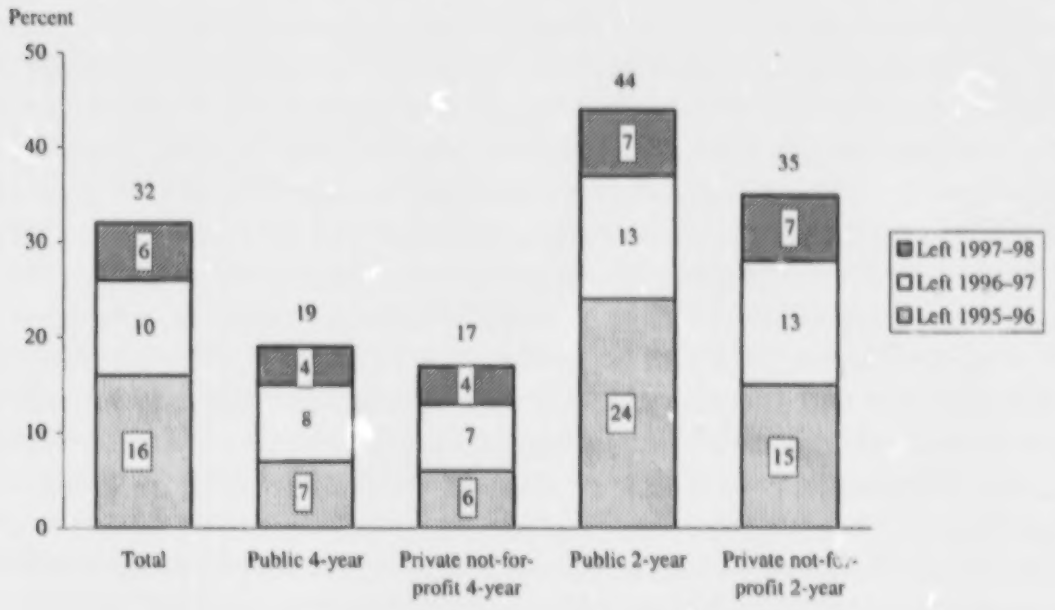
NOTE: Excludes students who began at less-than-2-year institutions and private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

The proportion of students who left without a credential was greatest in the first year of enrollment and smallest in the third year of enrollment.[3] This result is consistent with evidence from other studies (Horn 1998). Among students who began at public 4-year institutions, fewer left in the third year than in the first or second year of enrollment. Among students who began at private not-for-profit 4-year institutions, no differences were detected in the proportions leaving

[3]The percentage who left in each year is calculated as a proportion of the total number of students in the beginning cohort, rather than as a proportion of the number of students *remaining*.

Figure 1.—Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type and last year of attendance



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

in each of the first 3 years. The proportion of public 2-year college students leaving school within the first year was larger than the proportion leaving from any other type of institution.

What Factors Were Associated With Early Departure?

As indicated in the introduction, the literature suggests that the process of departure from postsecondary education differs for students in various types of institutions (Tinto 1993; Dougherty 1994). For this reason, the analysis in the remainder of this section is conducted separately for students beginning at different types of institutions. Because the private not-for-profit 2-year sector is relatively small, this analysis could not produce reliable estimates of factors associated with departure exclusively in this sector. Thus, estimates are presented only for students beginning at public 4-year, private not-for-profit 4-year, and public 2-year institutions.

Student Background Characteristics

Several demographic factors were associated with early attrition among students who began at public 4-year institutions (table 2-A). Black students who began at public 4-year institutions were more likely than their Hispanic or Asian/Pacific Islander peers to leave within 3 academic years (25 percent versus 14 and 11 percent, respectively). Those from higher income families were less likely than those from lower income families to leave within 3 years of first enrollment. For example, 24 percent of students from the lowest income quartile left, while 15 percent of those from the highest income quartile did so. Also, students whose parents did not go to college were more likely than those whose parents did attend college to leave without a credential within 3 years of beginning their postsecondary education (25 versus 15 percent).

Table 2-A.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by student background characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	18.8	7.3	7.5	4.1
Gender				
Male	19.8	8.1	7.9	3.9
Female	18.2	6.6	7.2	4.3
Race/ethnicity				
White, non-Hispanic	19.6	8.0	7.9	3.8
Black, non-Hispanic	25.4	6.9	12.1	6.4
Hispanic	13.6	6.8	4.4	2.4
Asian/Pacific Islander	10.5	1.3	1.9	7.3
Other	13.1	4.0	5.9	3.3
1994 income quartile				
Lowest quartile	23.8	9.9	9.3	4.6
Middle two quartiles	18.8	7.1	8.0	3.7
Highest quartile	15.2	5.4	5.3	4.5
First generation status				
First-generation college student	25.0	9.2	11.5	4.3
Not first-generation	14.5	5.0	5.6	4.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Many of the same results were found among students who began at private not-for-profit 4-year institutions (table 2-B). Black students were more likely than Asian/Pacific Islander students to leave within 3 academic years. While it appeared that Hispanic students were also more likely than Asian students to leave during this time frame, the standard errors were large and the difference was not statistically significant. Among those who began at private not-for-profit 4-year institutions, smaller proportions of higher income students left than lower income students. Like those who began at public 4-year colleges and universities, first-generation college students (those whose parents did not attend college) at private not-for-profit 4-year institutions were more likely than others to leave without a credential within 3 years of beginning their postsecondary education.

Table 2-B.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by student background characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	17.2	6.4	6.8	4.0
Gender				
Male	19.2	9.1	7.3	2.8
Female	15.6	4.3	6.4	4.9
Race/ethnicity				
White, non-Hispanic	16.1	5.8	6.7	3.7
Black, non-Hispanic	22.7	5.8	11.6	5.2
Hispanic	23.8	12.8	7.1	3.9
Asian/Pacific Islander	10.3	3.3	1.6	5.4
Other	(#)	(#)	(#)	(#)
1994 income quartile				
Lowest quartile	26.5	9.9	11.3	5.4
Middle two quartiles	16.9	5.2	7.3	4.4
Highest quartile	11.3	5.9	3.1	2.4
First generation status				
First-generation college student	28.7	10.9	11.5	6.3
Not first-generation	12.8	4.2	5.3	3.3

#Too small to report.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Although differences in leaving school by income, race/ethnicity, and first-generation status were found among public and private not-for-profit 4-year students, these differences were not observed among students who began at public 2-year institutions (table 2-C).

Table 2-C.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by student background characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	43.6	23.9	13.0	6.8
Gender				
Male	41.3	23.8	11.2	6.2
Female	45.9	24.0	14.7	7.3
Race/ethnicity				
White, non-Hispanic	42.7	23.7	13.1	5.9
Black, non-Hispanic	52.9	33.9	10.5	8.4
Hispanic	41.9	19.7	11.5	10.7
Asian/Pacific Islander	41.0	13.1	25.5	2.4
Other	(#)	(#)	(#)	(#)
1994 income quartile				
Lowest quartile	44.0	26.5	11.5	6.0
Middle two quartiles	44.7	24.4	12.3	8.0
Highest quartile	39.3	19.2	15.3	4.8
First generation status				
First-generation college student	45.0	24.2	13.4	7.4
Not first-generation	37.4	18.2	11.9	7.3

#Too small to report.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Several characteristics were used to define those who were considered "nontraditional" among postsecondary students: being age 24 or older, delaying enrollment in postsecondary education by a year or more after high school, enrolling part time, being an independent student, working full time while enrolled, having been married, having any dependents or being single parents, and not having a regular high school diploma (Horn 1996). While these characteristics are considered nontraditional, they are not necessarily rare. For example, Horn (1996) found that, among all undergraduates (not just beginning postsecondary students) in Fall 1992, 59 percent

were older than typical for their class year; 43 percent had delayed enrollment; 42 percent attended part time; 48 percent were independent; 28 percent worked full time while enrolled; 20 percent had dependents; 7 percent were single parents; and 4 percent had a GED or high school completion certificate instead of a high school diploma.

Students with nontraditional characteristics who began at public 4-year institutions were generally more likely than those without these characteristics to leave within 3 years (table 3-A). Older students left with greater frequency than younger ones (46 versus 16–22 percent). Similarly, students who delayed enrollment in postsecondary education were more likely to leave college (33 versus 15 percent). Students who enrolled part time were more likely than those who enrolled full time for at least part of the first year to leave postsecondary education within 3 years. In addition, 42 percent of independent students left without a credential within 3 years, while 17 percent of dependent students did so. The more hours students worked while enrolled during their first year of postsecondary education, the more likely they were to leave within 3 years. Students who worked full time were especially likely to leave within this time period: 39 percent of them departed within 3 years, compared with 13 percent of those who did not work and 19 percent of those who worked part time while they were enrolled during the 1995–96 academic year. In addition, 47 percent of students who had ever been married or had dependents when they enrolled had departed within 3 years, compared with about 17 percent of students who had never married or did not have dependents. Similarly, single parents were more likely than their counterparts to leave postsecondary education within 3 years (40 versus 18 percent).

Students with nontraditional characteristics who began at private not-for-profit 4-year institutions were also more likely than those without these characteristics to leave without a credential (table 3-B). Age, delayed enrollment, initial attendance intensity, dependency status, employment intensity, marital and parental status, and high school completion type were all associated with early departure from postsecondary education. For example, students who delayed enrollment in postsecondary education by more than a year after completing high school were more likely to leave within 3 years (34 versus 14 percent). Also, students who enrolled full time for their first year of postsecondary education were less likely to leave than those who enrolled part time for part or all of the year (14 percent for full-time enrollment versus 31 percent for mixed enrollment and 51 percent for part-time enrollment).

Similar to the pattern among students from 4-year institutions, students with nontraditional characteristics who began at community colleges during 1995–96 were generally more likely than their counterparts without these characteristics to depart without a credential within 3 academic years (table 3-C). For example, older students were more likely than younger students to leave without a credential within 3 years. Similarly, those who delayed postsecondary

Table 3-A.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by nontraditional student characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	18.8	7.3	7.5	4.1
Age				
18 or younger	15.5	5.0	6.4	4.1
19–23	21.7	8.4	9.3	4.0
24 or older	46.0	31.6	9.5	4.9
Delayed postsecondary enrollment after high school				
Did not delay	15.5	4.9	6.3	4.2
Delayed	33.2	16.9	12.5	3.7
Attendance intensity				
Full time	17.2	6.0	6.8	4.3
Mixed	14.9	6.0	5.5	3.4
Part time	47.2	24.4	19.1	3.6
Dependency status				
Dependent	16.7	5.8	6.9	4.0
Independent	42.0	25.2	11.1	5.7
Employment while enrolled				
Did not work	12.9	3.6	6.1	3.2
Worked part time	18.7	7.2	7.1	4.3
Worked full time	38.5	19.9	13.3	5.3
Ever married				
Never married	17.5	6.1	7.4	4.0
Currently or previously married	47.0	31.4	9.8	5.8
Any dependents				
No dependents	17.3	6.5	7.0	3.9
Had dependents	46.7	26.0	12.7	8.0
Single parent				
Not single parent	18.0	7.0	7.0	4.0
Single parent	39.6	16.3	14.8	8.5
High school completion type				
Regular diploma	18.6	7.3	7.3	4.1
Other	35.6	8.2	21.3	6.1

NOTE: Row variables are as of the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 3-B.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by nontraditional student characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	17.2	6.4	6.8	4.0
Age				
18 or younger	13.3	4.0	6.6	2.7
19–23	20.7	7.0	6.9	6.8
24 or older	45.1	33.5	8.4	3.2
Delayed postsecondary enrollment after high school				
Did not delay	13.6	3.9	6.1	3.7
Delayed	33.8	18.3	9.9	5.6
Attendance intensity				
Full time	14.1	4.7	6.2	3.3
Mixed	31.0	6.2	15.7	9.0
Part time	50.8	36.0	5.2	9.6
Dependency status				
Dependent	14.4	4.4	6.1	4.0
Independent	44.5	25.8	14.7	4.0
Employment while enrolled				
Did not work	14.6	5.7	5.1	3.8
Worked part time	13.9	3.1	6.8	4.1
Worked full time	37.8	17.3	14.1	6.5
Ever married				
Never married	15.3	4.9	6.5	4.0
Currently or previously married	62.4	43.9	14.3	4.3
Any dependents				
No dependents	15.4	5.2	6.3	3.9
Had dependents	58.4	31.1	21.2	6.1
Single parent				
Not single parent	16.2	5.7	6.6	3.9
Single parent	47.2	25.7	15.1	6.5
High school completion type				
Regular diploma	16.6	6.1	6.7	3.9
Other	37.4	18.3	11.5	7.6

NOTE: Row variables are as of the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 3-C.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by nontraditional student characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	43.6	23.9	13.0	6.8
Age				
18 or younger	33.6	16.7	10.4	6.5
19–23	42.1	22.0	12.6	7.5
24 or older	59.5	37.6	15.5	6.4
Delayed postsecondary enrollment				
Did not delay	33.1	15.7	11.4	6.1
Delayed	55.4	33.3	14.5	7.6
Attendance intensity				
Full time	33.4	14.9	13.5	5.0
Mixed	37.1	16.2	11.5	9.5
Part time	58.0	38.0	12.9	7.1
Dependency status				
Dependent	35.6	17.7	11.9	6.1
Independent	59.0	35.9	14.2	8.9
Employment while enrolled				
Did not work	43.1	22.5	14.9	5.6
Worked part time	32.7	16.2	10.3	6.2
Worked full time	59.0	34.3	15.8	8.9
Ever married				
Never married	39.1	19.8	12.5	6.8
Currently or previously married	60.4	39.2	14.7	6.5
Any dependents				
No dependents	40.4	21.4	12.9	6.1
Had dependents	55.4	31.6	13.6	10.1
Single parent				
Not single parent	42.6	22.9	13.8	5.9
Single parent	49.7	27.4	7.0	15.4
High school completion type				
Regular diploma	42.9	23.7	12.8	6.5
Other	49.1	25.6	14.6	8.9

NOTE: Row variables are as of the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

enrollment after high school were more likely than those who did not delay to leave without a credential within this time period (55 versus 33 percent). Independent students who began at public 2-year institutions were more likely than dependent students to leave without a credential (59 versus 36 percent). In addition, students who had ever been married (60 percent) or who had dependents (55 percent) when they began college were more likely to leave than those who had not married or had dependents (39–40 percent). Finally, while a majority (59 percent) of beginning postsecondary students at public 2-year institutions who worked full time while enrolled in their first year left without a credential, the same was not true for those who did not work (43 percent) or for those who worked fewer hours (33 percent).

In addition to students' employment status while enrolled, among those students who *were* employed, the role that they considered primary was also associated with short-term enrollment that did not result in a credential (table 4). Among beginning postsecondary students from all three types of institutions who were employed while enrolled in 1995–96, those who considered themselves to be primarily employees who were enrolled in school were more likely than those who considered themselves to be primarily students to leave without a credential within 3 years. For example, among those who began at public 4-year institutions, 44 percent of employed students who considered themselves primarily employees left within this time frame, while 19 percent of those who considered themselves primarily students did so.

Students' Educational Expectations and Other Academic Characteristics

While the family and employment situations of students are often related to how likely they are to leave postsecondary education, much literature on short-term enrollment, particularly that on community college students, suggests that students' own reasons for enrolling and their overall educational plans and expectations must be taken into account when considering who leaves (Conklin 1993; Bonham and Luckie 1993). That is, students without plans to complete a degree when they enter college may differ considerably from those with such plans. Because of the broader missions and range of students they serve, public 2-year institutions may be particularly attractive to students with these shorter-term goals, and students who leave these institutions without credentials often indicate that their goals were met (Lee 1996; Moore 1995).

In the 1995–96 survey, students were asked to identify what degree, if any, they planned to complete at their first institution,[4] as well as the highest educational level they ever expected to

[4]This variable was based on students' responses to the question, "What is the highest degree you expect to complete at [this institution]?" Response options included plans to transfer to 2-year or 4-year institutions, degrees ranging from undergraduate certificates to doctoral and first-professional degrees, and no plans to transfer or complete a degree. Responses for any degree of BA or higher plus those planning to transfer to a 4-year institution were coded as bachelor's/transfer. Those planning no degree at

Table 4.—Percentage of employed 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type and primary role while employed in 1995–96

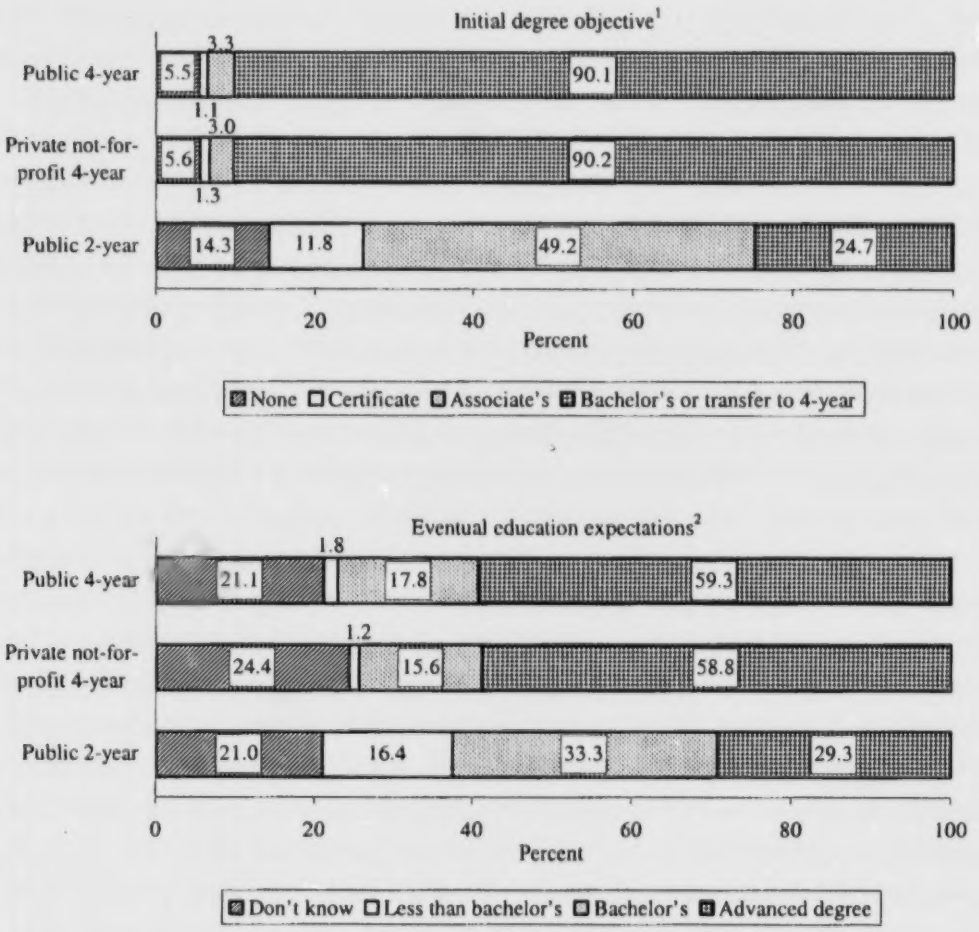
	Total	Year departed		
		1995–96	1996–97	1997–98
		Public 4-year institutions		
Total	21.8	9.1	8.2	4.6
Primary role				
Student working to meet expenses	19.1	6.6	8.6	3.9
Employee who is enrolled	44.0	27.3	7.4	9.4
		Private not-for-profit 4-year institutions		
Total	18.2	6.7	7.5	4.0
Primary role				
Student working to meet expenses	14.2	3.2	7.2	3.9
Employee who is enrolled	42.5	21.0	13.9	7.6
		Public 2-year institutions		
Total	43.8	24.2	12.6	7.0
Primary role				
Student working to meet expenses	36.9	15.7	14.7	6.5
Employee who is enrolled	57.7	37.5	10.7	9.5

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

complete. In this report, these are referred to as "initial degree objectives" and "eventual educational expectations," respectively. Students' initial degree objectives differed by the type of institution they attended (figure 2). Relatively few students did not plan to get any sort of credential from their first institution, but those at public 2-year colleges were more likely to have no immediate degree plans than those at 4-year institutions (14 versus 5–6 percent). On the other hand, students who began at 4-year institutions had higher initial degree objectives: 90 percent of students who began at 4-year institutions planned to get a bachelor's degree from the institution where they began. In comparison, 25 percent of students who began at community colleges planned to transfer from their first institution to a 4-year institution or otherwise indicated that they planned to complete a bachelor's degree immediately.

that institution or planning to transfer from one less-than-4-year institution to another were also coded as having no degree expectation. Responses of higher degrees than were offered at the institution were assumed to be planning to transfer.

Figure 2.—Percentage distribution of 1995–96 beginning postsecondary students according to initial educational goals, by first institution type



[1]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[2]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Eventual educational expectations were relatively high, even among students who began at public 2-year institutions (figure 2). Among students who began at community colleges, 33 percent eventually expected to complete a bachelor's degree, and another 29 percent expected to complete an advanced degree beyond the bachelor's. But they were less likely to expect an advanced degree in the future than students who began at 4-year institutions (59 percent for those

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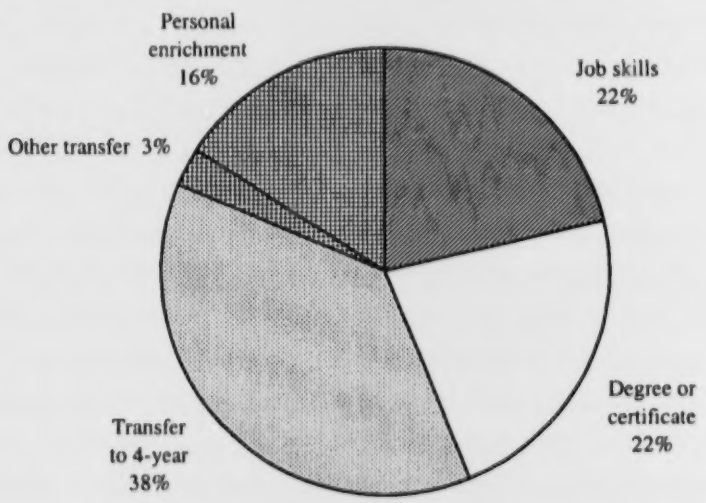
at both public and private not-for-profit 4-year institutions). Students who began at public 2-year institutions were also more likely to have eventual educational expectations below a bachelor's degree (16 versus 1–2 percent of those who began at 4-year institutions).

Students who began at public 2-year institutions were also asked to indicate their primary reason for enrolling in a community college (figure 3). Thirty-eight percent of public 2-year students indicated that their primary reason for enrolling in a community college was to transfer to a 4-year institution, a reason that was reported more often than any other. About one-fifth (22 percent) indicated that they enrolled in a public 2-year college primarily to obtain job skills, and another fifth said they selected the institution so they could complete an associate's degree or certificate.

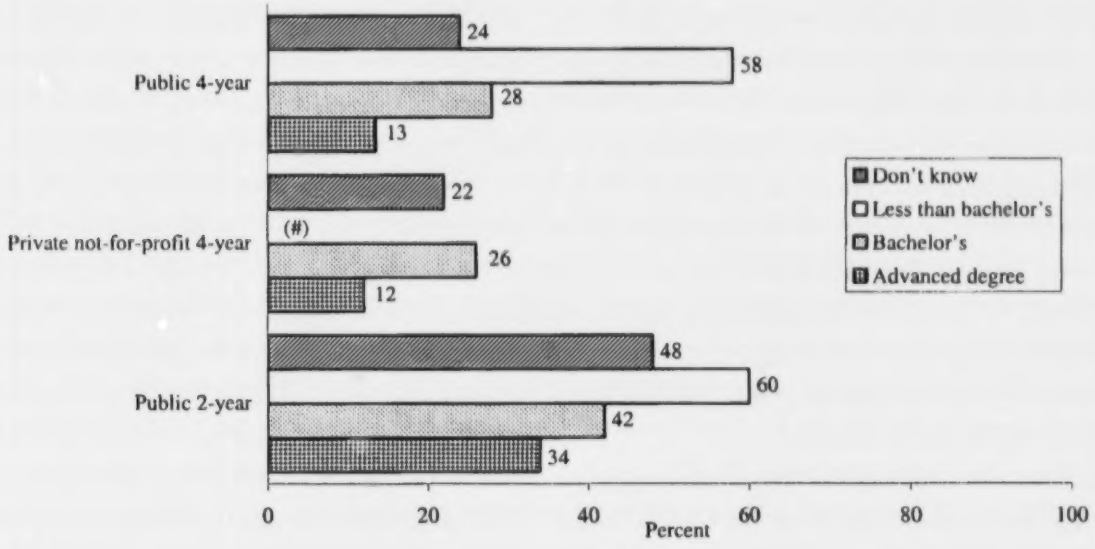
Figure 3.—Percentage distribution of 1995–96 beginning students at public 2-year institutions according to primary reason for enrolling in a community college



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Students' eventual educational expectations and their initial degree objective at their first institution were both associated with their departure from postsecondary education within 3 years. For example, among beginning postsecondary students at public 4-year institutions, those with higher expectations for their eventual education were less likely to leave within 3 years without a credential (figure 4 and table 5-A). In addition, those who did not know their eventual

Figure 4.—Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by education expectations and first institution type



NOTE: Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

#Too small to report.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

education outcome were more likely than those who expected to complete an advanced degree to leave within this time frame (24 versus 13 percent). However, students with uncertain education outcomes were less likely than those who did not expect to complete a bachelor's degree to leave (24 versus 58 percent). Furthermore, those who did not plan to get a bachelor's degree from their *first* institution were more likely than those who did to leave within 3 years (40 versus 16 percent).

Other academic and enrollment characteristics were also associated with departure within 3 years. Students who began at public 4-year institutions in the fall term were less likely to leave within this time period than those who started later in the academic year (18 versus 36 percent). In addition, students with lower academic performance in their first year of enrollment were more likely to leave within 3 years than others. Twenty-four percent of students who took any remedial classes left, compared with 18 percent of those who did not take remedial courses, and attrition was also higher among students whose first-year grade-point average (GPA) was below

Table 5-A.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by academic characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	18.8	7.3	7.5	4.1
Initial degree objective[1]				
Less than bachelor's	39.6	22.5	13.2	3.8
Bachelor's	16.0	5.4	6.7	3.9
Eventual education expectations[2]				
Don't know	24.4	9.7	9.6	5.1
Less than bachelor's	58.1	40.5	16.5	1.2
Bachelor's	28.3	10.6	12.6	5.1
Advanced degree	13.5	4.1	5.5	3.9
First term enrolled				
Fall	17.7	6.5	7.1	4.1
Other	35.9	17.6	13.1	5.2
Any remedial courses 1995–96				
No remedial courses	17.8	6.8	7.0	4.0
Any remedial courses	24.3	7.6	11.3	5.4
Grade point average 1995–96				
2.75 or higher	8.8	3.8	2.6	2.4
Under 2.75	27.8	10.5	11.6	5.6
Combined SAT scores[3]				
Not available	33.5	17.1	13.4	3.0
1000 or below	20.1	6.7	8.5	5.0
Over 1000	12.5	5.6	4.1	2.9

[1]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[2]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[3]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Nine percent of students beginning at public 4-year institutions were missing this information. See appendix A for details.

NOTE: Row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

2.75 than among those with higher GPAs. Finally, those with combined SAT scores of 1,000 or below were more likely than those with higher scores to leave without a credential (13 versus 20 percent).

For those students who began at private not-for-profit 4-year institutions, academic characteristics were related to departure from postsecondary education within 3 years in much the same way as for students who began at public 4-year institutions (figure 4 and table 5-B). For example, those who eventually expected to get an advanced degree were less likely to leave than those who did not expect to obtain more education beyond a bachelor's degree (12 versus 26 percent). Here, too, students who planned to complete a bachelor's degree at the private 4-year college or university at which they first enrolled were less likely than those who did not have such plans to leave postsecondary education altogether (13 versus 46 percent).

Students who began at private not-for-profit 4-year institutions in the fall term were less likely to leave within 3 years than those who started later in the year (16 versus 43 percent). Higher first-year GPA and SAT scores were also associated with a lower likelihood of leaving postsecondary education without a credential at private not-for-profit institutions. These results were also consistent with those for students who began at public 4-year institutions.

Among students who began postsecondary education at community colleges, those with higher educational goals (in terms of both eventual educational expectations and degree goals at the first institution) were less likely than others to depart within 3 years without a credential (figure 4 and table 5-C). For example, 64 percent of those who did not plan to obtain any credential at the community college where they first enrolled had ceased enrollment within 3 years, compared with 33–44 percent of others. Furthermore, among beginning postsecondary students at community colleges, those indicating that their primary reason for enrolling was to transfer to a 4-year institution—the most frequent reason cited—were less likely than those giving any other reason (such as gaining job skills or a less-than-4-year credential) to leave within 3 years. However, 29 percent of them still departed, a higher rate than that among students who began at 4-year institutions.

First-year GPA was associated with departure without a credential among students who began at public 2-year institutions as well. Unlike the pattern among students at public 4-year institutions, however, no differences were observed in the rate of departure by enrollment in remedial courses. Although SAT scores were not available for most students beginning at public 2-year institutions, those who had SAT scores were less likely than those who did not to leave postsecondary education without a credential within 3 years. This pattern may have occurred because those who had taken a college admissions test already had plans to transfer to 4-year

Table 5-B.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by academic characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	17.2	6.4	6.8	4.0
Initial degree objective[1]				
Less than bachelor's	45.5	21.4	14.1	10.0
Bachelor's	13.1	3.4	6.2	3.5
Eventual education expectations[2]				
Don't know	22.2	11.4	7.3	3.5
Less than bachelor's	(#)	(#)	(#)	(#)
Bachelor's	26.1	9.4	10.6	6.0
Advanced degree	11.7	2.6	5.5	3.6
First term enrolled				
Fall	15.8	5.5	6.6	3.7
Other	42.5	23.4	9.3	9.8
Any remedial courses 1995–96				
No remedial courses	15.6	4.7	7.0	3.9
Any remedial courses	21.9	8.2	7.2	6.6
Grade point average 1995–96				
2.75 or higher	8.5	2.6	3.2	2.7
Under 2.75	28.9	11.7	11.7	5.4
Combined SAT scores[3]				
Not available	44.3	29.4	10.3	4.6
1000 or below	19.8	5.1	9.1	5.6
Over 1000	7.9	2.4	3.5	2.0

#Too small to report.

[1]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[2]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[3]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Ten percent of students beginning at private not-for-profit 4-year institutions were missing this information. See appendix A for details.

NOTE: Row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 5-C.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by academic characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	43.6	23.9	13.0	6.8
Initial degree objective[1]				
None	64.2	46.6	11.4	6.2
Certificate	43.6	33.1	8.0	2.5
Associate's	42.4	17.9	16.3	8.2
Bachelor's or transfer to 4-year	33.3	17.5	10.0	5.8
Eventual education expectations[2]				
Don't know	48.1	33.2	9.4	5.5
Less than bachelor's	60.3	42.1	11.9	6.2
Bachelor's	42.4	18.1	16.8	7.5
Advanced degree	33.7	12.9	12.2	8.6
Primary reason for enrolling				
Job skills	58.1	39.2	12.3	6.7
Degree or certificate	46.4	16.2	24.7	5.6
Transfer to 4-year	29.3	12.4	8.9	8.0
Other transfer	64.1	27.8	28.5	7.8
Personal enrichment	54.6	35.9	11.3	7.4
First term enrolled				
Fall	42.1	23.6	12.3	6.2
Other	48.3	26.0	13.3	9.0
Any remedial courses 1995–96				
No remedial courses	42.4	23.5	11.8	7.0
Any remedial courses	48.2	21.5	18.5	8.2
Grade point average 1995–96				
2.75 or higher	38.4	21.7	11.2	5.5
Under 2.75	47.2	25.6	13.6	8.0
Combined SAT scores[3]				
Not available	53.9	31.2	15.0	7.7
1000 or below	29.4	13.8	10.4	5.2
Over 1000	20.4	7.4	6.5	6.4

[1]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[2]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[3]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Sixty percent of students beginning at public 2-year institutions were missing this information. See appendix A for details.

NOTE: Row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

institutions that require these tests. Alternatively, younger students (who were less likely to leave; table 3-C) may have been more likely to have taken a college admissions test during high school to prepare for any postsecondary education. While rates of attrition differed among students who began at 4-year institutions according to whether or not they entered college in the fall semester, such differences were not found among those who began at public 2-year institutions.

Other Student and Institution Characteristics

Among students who began at public 4-year institutions, both financial aid and price of attendance were associated with short-term enrollment in postsecondary education (table 6-A). Among students who received financial aid in their first year of college, those who received more aid were less likely than those who received less aid to depart within 3 years, although there was no difference detected by the type of aid package that aided students had. However, no difference was detected between the proportion of all financial aid recipients and the proportion of non-recipients who left postsecondary education within this time frame.

Students' price of attendance refers to their attendance-adjusted student budget (tuition and fees plus housing and other expenses). This provides a measure of the costs of attending postsecondary education that must be paid by the student or by financial aid, and reflects variation among institutions even within a particular type of institution. Students with a higher price of attendance were less likely to leave than those with a lower price. This was also true when considering full-time students only.

Similar results were found among students who began at private not-for-profit 4-year institutions (table 6-B). Among financial aid recipients, those who received more aid were less likely than those who received less aid to depart within 3 years. However, no difference was detected between aided students and non-aided students in rates of departure, and among aided students, the type of aid received was not found to be associated with departure. Students beginning at private not-for-profit 4-year institutions who had a higher price of attendance were less likely to leave than those with a lower price, even when examining full-time students only.

Price of attendance was negatively associated with departure within 3 academic years for students who began at public 2-year institutions: the higher the price of attendance, the less likely the students were to leave without a credential, both among all students and among full-time students (table 6-C). This result paralleled the relationship of price of attendance to departure among students who began at 4-year institutions. No differences in departure rates were observed by receipt of financial aid and, for aided students, by the type and amount of aid received.

Table 6-A.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by financial aid characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
		Total		
Total	18.8	7.3	7.5	4.1
Received financial aid				
No financial aid	20.2	7.9	7.9	4.4
Received financial aid	18.4	7.0	7.4	4.0
Financial aid amount[1]				
$3,000 or less	22.0	9.6	7.8	4.6
$3,001–$6,000	19.5	6.7	8.7	4.1
More than $6,000	12.5	3.9	5.4	3.3
Financial aid package[1]				
Aided, no loans	16.7	7.5	5.9	3.3
Aided with loans	19.7	6.8	8.3	4.6
Price of attendance[2]				
$6,000 or less	44.5	24.4	14.4	5.8
$6,001–$9,000	20.5	6.4	8.5	5.6
$9,001–$12,000	12.7	3.9	5.8	3.0
More than $12,000	8.7	2.1	4.0	2.6
		Full time		
Total	17.2	6.0	6.8	4.3
Received financial aid				
No financial aid	15.4	5.1	6.0	4.4
Received financial aid	17.8	6.4	7.2	4.2
Financial aid amount[1]				
$3,000 or less	20.2	8.3	7.1	4.8
$3,001–$6,000	20.0	6.6	8.9	4.5
More than $6,000	12.7	3.9	5.6	3.2
Financial aid package[1]				
Aided, no loans	14.5	5.7	5.4	3.4
Aided with loans	19.9	6.9	8.3	4.8
Price of attendance[2]				
$6,000 or less	40.8	22.6	11.4	6.8
$6,001–$9,000	20.4	6.1	8.5	5.8
$9,001–$12,000	12.6	4.1	5.5	3.1
More than $12,000	8.7	1.5	4.5	2.7

[1]Excludes those without financial aid.

[2]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

NOTE: Row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 6-B.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by financial aid characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
		Total		
Total	17.2	6.4	6.8	4.0
Received financial aid				
No financial aid	18.1	10.3	3.5	4.3
Received financial aid	17.0	5.5	7.5	3.9
Financial aid amount[1]				
$6,000 or less	25.2	11.6	10.2	3.4
$6,001–$12,000	16.3	3.2	9.2	3.8
More than $12,000	9.8	1.7	3.7	4.4
Financial aid package[1]				
Aided, no loans	19.1	7.8	7.9	3.5
Aided with loans	16.1	4.6	7.4	4.1
Price of attendance[2]				
$15,000 or less	36.9	17.9	13.5	5.5
$15,001–$20,000	10.5	2.6	5.1	2.8
$20,001–$25,000	7.8	0.2	2.7	4.9
More than $25,000	4.8	0.1	2.5	2.3
		Full time		
Total	14.1	4.7	6.2	3.3
Received financial aid				
No financial aid	12.1	6.3	3.8	2.0
Received financial aid	14.6	4.3	6.7	3.6
Financial aid amount[1]				
$6,000 or less	20.8	9.9	8.5	2.5
$6,001–$12,000	14.7	2.1	9.3	3.3
More than $12,000	9.6	1.8	3.2	4.6
Financial aid package[1]				
Aided, no loans	14.1	5.5	5.7	2.9
Aided with loans	14.8	3.9	7.1	3.8
Price of attendance[2]				
$15,000 or less	32.5	14.7	14.2	3.6
$15,001–$20,000	9.9	2.5	4.7	2.7
$20,001–$25,000	7.5	0.2	2.4	4.9
More than $25,000	4.8	0.1	2.4	2.3

[1]Excludes those without financial aid.

[2]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

NOTE: Row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 6-C.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by financial aid characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
		Total		
Total	43.6	23.9	13.0	6.8
Received financial aid				
No financial aid	42.4	25.6	11.4	5.4
Received financial aid	45.0	22.4	14.0	8.6
Financial aid amount[1]				
$3,000 or less	47.8	26.1	14.4	7.3
More than $3,000	35.2	9.1	12.5	13.6
Financial aid package[1]				
Aided, no loans	46.9	23.8	13.6	9.5
Aided with loans	38.9	17.7	15.3	5.8
Price of attendance[2]				
$3,000 or less	60.2	43.2	10.5	6.4
$3,001–$6,000	39.1	20.2	13.5	5.4
More than $6,000	32.9	9.9	13.5	9.5
		Full time		
Total	33.4	14.9	13.5	5.0
Received financial aid				
No financial aid	32.2	15.3	12.0	4.9
Received financial aid	34.4	14.6	14.6	5.2
Financial aid amount[1]				
$3,000 or less	36.7	17.7	13.1	5.8
More than $3,000	27.9	5.9	18.8	3.2
Financial aid package[1]				
Aided, no loans	34.3	15.2	13.2	5.9
Aided with loans	34.4	13.2	17.9	3.3
Price of attendance[2]				
$3,000 or less	59.9	41.6	14.0	4.3
$3,001–$6,000	35.0	18.4	12.4	4.2
More than $6,000	26.5	5.7	14.7	6.2

[1]Excludes those without financial aid.

[2]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

NOTE: Row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Tinto (1993) suggests that satisfying social and academic experiences in college serve to integrate students more fully into the life of the institution. The BPS survey provides a measure of social integration with questions asking students how frequently they did such activities as attending concerts, participating in clubs or sports, or going places with friends from school. Similarly, academic integration is assessed by the frequency with which students participated in study groups or had contact with faculty.[5] Students beginning at public 4-year institutions who experienced lower social and academic integration into campus life during their first year of postsecondary education were more likely than others to leave within 3 years (table 7-A).

Table 7-A.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by institution-related characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	18.8	7.3	7.5	4.1
Social integration				
Low	28.1	11.4	10.4	6.3
High	14.6	4.9	6.5	3.2
Academic integration				
Low	31.1	14.7	10.5	6.0
High	15.0	4.5	6.9	3.7
Residence while enrolled				
School-owned housing	14.7	4.0	6.7	4.0
With parents or other relatives	22.4	9.3	8.0	5.1
Other	27.9	13.4	10.4	4.1
Institution graduation rate*				
33 percent or less	28.4	11.2	11.2	6.1
34–67 percent	18.9	7.0	7.6	4.3
More than 67 percent	4.9	1.7	1.9	1.4

*Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

NOTE: Unless otherwise specified, row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

[5]Responses to individual items were combined into indices of social and academic integration, with low and high groups determined by splitting the sample at the overall mean (see the glossary for details on variable construction). Students at 4-year institutions were more likely than those at public 2-year institutions to have high integration: 68–79 percent of 4-year students had high social integration, compared with 24 percent of public 2-year students, and 76–84 percent of 4-year students had high academic integration, compared with 41 percent of public 2-year students.

Twenty-eight percent of those with low social integration left within 3 years, compared with 15 percent of those with high social integration. Similarly, 31 percent of students with low academic integration left, compared with 15 percent of students with high academic integration. In addition, students who lived in school-owned housing in their first year at public 4-year colleges and universities were less likely than those with other living arrangements to leave within this time frame. Students living in school-owned housing may be more integrated into campus life than those who live with their parents or on their own. Alternatively, students in school-owned housing may also be younger, and therefore less likely to leave.

The persistence behavior of peers was also related to their departure. Students who began at public 4-year institutions with higher graduation rates (calculated for first-time, full-time students) were less likely than their counterparts at institutions with lower graduation rates to leave postsecondary education within 3 years. That is, when persistence at the institution was generally high among full-time beginning students, individual students were less likely to leave postsecondary education.

Paralleling students who began at public 4-year institutions, social and academic integration, residence arrangement, and institutional graduation rates were associated with departure from postsecondary education among students who began at private not-for-profit 4-year institutions (table 7-B). For example, 12 percent of students at private 4-year institutions who lived in school-owned housing during their first year left within 3 years, compared with 28 percent of those who lived with their parents and 43 percent of those who lived elsewhere.

Higher social and academic integration were also associated with persistence among students who began at public 2-year institutions (table 7-C). About one-half (49 percent) of students with low social or academic integration left without a credential within 3 years, compared with 30 percent of students with high social integration and 37 percent of students with high academic integration. While school-owned housing is relatively uncommon at community colleges, beginning postsecondary students at these institutions who did live in school-owned housing were less likely than those who lived somewhere else other than with their parents to leave within 3 academic years (31 versus 52 percent). The graduation rate of the institution where students began was associated with attrition rates at 4-year institutions, but this relationship was not detected among students who began at public 2-year colleges.

Table 7-B.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by institution-related characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	17.2	6.4	6.8	4.0
Social integration				
Low	34.7	13.8	13.9	7.1
High	11.5	2.9	5.3	3.4
Academic integration				
Low	33.3	13.0	13.4	6.9
High	13.1	3.7	5.9	3.6
Residence while enrolled				
School-owned housing	12.2	3.1	5.7	3.3
With parents or other relatives	27.8	12.7	9.5	5.6
Other	43.5	20.4	15.2	7.8
Institution graduation rate*				
33 percent or less	39.1	18.9	12.5	7.7
34–67 percent	20.1	6.3	9.6	4.2
More than 67 percent	6.7	3.0	1.5	2.2

*Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

NOTE: Unless otherwise specified, row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

As described in the introduction, students' educational goals may change during college (Astin 1993). Transfer between institutions as well as changes in educational expectations were assessed in BPS:96/98. Among students who began at public 4-year institutions, those who had transferred to another institution within 3 academic years were less likely than those who remained at their initial institution to have left postsecondary education altogether (15 versus 20 percent; table 8-A). Change in overall educational expectations[6] was also associated with whether students left postsecondary education. Those 1995–96 beginning postsecondary students who increased their expectations to include a graduate degree by 1998 or who had always expected to get a graduate degree (8 percent) were less likely than students in other groups (24–41 percent) to have departed from postsecondary education during the same period.

[6]This variable combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. See the glossary for further details about the categories of this variable.

Table 7-C.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by institution-related characteristics

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	43.6	23.9	13.0	6.8
Social integration				
Low	48.6	26.9	14.3	7.3
High	29.9	10.4	11.9	7.6
Academic integration				
Low	49.1	27.5	14.6	7.0
High	36.8	16.3	12.6	8.0
Residence while enrolled				
School-owned housing	30.6	17.9	8.8	4.0
With parents or other relatives	41.2	20.3	13.7	7.2
Other	51.9	31.0	14.0	6.9
Institution graduation rate*				
16 percent or less	42.9	27.4	10.4	5.1
17–33 percent	49.5	25.0	16.8	7.7
More than 33 percent	37.7	17.1	12.2	8.3

*Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

NOTE: Unless otherwise specified, row variables are for the 1995–96 academic year.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Other changes in students' personal lives have also been cited as factors in their leaving postsecondary education (Bonham and Luckie 1993). Among students beginning at public 4-year institutions, those who had more dependents in 1998 than when they began postsecondary education had a higher rate of attrition during the 3-year period than those who had never had dependents (60 versus 16 percent).

Table 8-A.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, by change in family and education circumstances by 1998

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	18.8	7.3	7.5	4.1
Transfer status				
Did not transfer	19.8	9.1	7.5	3.3
Transferred by 1998	15.0	0.2	7.6	7.2
Change in education expectations, 1996 to 1998*				
Never expected or decreased from graduate degree expectations	34.0	12.9	14.2	6.8
Always expected or increased to graduate degree expectations	8.1	2.6	3.0	2.4
Clarified expectations	23.9	9.0	9.3	5.6
Don't know in 1998	41.3	17.2	20.3	3.8
Change in number of dependents				
Never had dependents	15.9	5.3	6.6	3.9
Increased number	60.3	36.7	20.4	3.3
Decreased or same number	44.2	24.3	11.1	8.8

*Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Some of these relationships were also observed among students who began postsecondary education at private 4-year institutions in 1995–96 (table 8-B). While 9 percent of students whose educational expectations always included or increased to earning a graduate degree had left within 3 years of beginning college, 21–34 percent of other students did so. Also, those who had never had dependents were much less likely than others to have left. However, there was no difference found in the attrition rates of students who had transferred institutions and those who had not transferred during the 3-year period (19 and 17 percent, respectively).

Table 8-B.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions who left without a credential and did not return by spring 1998, by change in family and education circumstances by 1998

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	17.2	6.4	6.8	4.0
Transfer status				
Did not transfer	16.7	8.0	5.6	3.1
Transferred by 1998	19.0	1.2	10.7	7.1
Change in education expectations, 1996 to 1998*				
Never expected or decreased from graduate degree expectations	33.6	12.9	13.7	7.0
Always expected or increased to graduate degree expectations	8.9	1.5	4.1	3.3
Clarified expectations	21.3	10.8	7.0	3.6
Don't know in 1998	29.2	19.1	5.8	4.4
Change in number of dependents				
Never had dependents	13.8	4.4	5.6	3.8
Increased number	58.9	26.8	21.8	10.4
Decreased or same number	56.0	28.4	20.7	7.0

*Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Similar patterns were found among students who began at public 2-year colleges in 1995–96. Those who had transferred to another institution by spring 1998 were less likely than those who did not transfer to have left postsecondary education altogether without a credential (14 versus 54 percent; table 8-C). Public 2-year students who increased their educational expectations between 1995–96 and spring 1998 to include a graduate degree or who expected a graduate degree at both points in time were less likely than those who never expected a graduate degree, who decreased their expectations from a graduate degree, or who did not know their educational aspirations in 1998 to have left without a credential. As among students who began at 4-year institutions, public 2-year students who did not have dependents in 1995–96 or 1998 were less likely than others to have left by 1998 without earning a credential.

Table 8-C.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, by change in family and education circumstances by 1998

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	43.6	23.9	13.0	6.8
Transfer status				
Did not transfer	53.5	31.2	15.3	7.1
Transferred by 1998	13.9	1.9	6.1	5.9
Change in education expectations, 1996 to 1998*				
Never expected or decreased from graduate degree expectations	49.6	26.4	15.9	7.2
Always expected or increased to graduate degree expectations	24.3	6.5	9.4	8.4
Clarified expectations	40.7	26.3	9.7	4.7
Don't know in 1998	61.9	42.4	13.0	6.6
Change in number of dependents				
Never had dependents	37.0	20.1	11.0	5.9
Increased number	61.0	29.1	20.6	11.2
Decreased or same number	54.0	31.4	16.1	6.6

*Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Factors Associated With Early Departure After Adjusting for Background Variation

So far, the analysis of attrition from postsecondary education within 3 years of beginning postsecondary education has examined how departure is related to individual student or enrollment characteristics for each institution type under consideration. Of course, some of the characteristics associated with early departure may be correlated. For example, different nontraditional student characteristics may be associated with each other, and financial aid characteristics may be related to family income. As a result, this approach does not demonstrate the unique relationship between each factor and early attrition. Multivariate analyses were conducted to determine whether student background, academic, and other characteristics were

related to departure when controlling for the other factors. For more information about this methodology, see appendix B.

As in the tables above, multivariate analyses of departure were conducted separately for students who began at public 4-year, private not-for-profit 4-year, and public 2-year institutions. For students who began at public or private not-for-profit 4-year institutions, variables found in the previous analyses to be associated with departure for students at one or both types of 4-year institutions were included in the multivariate models. Likewise, for students who began at public 2-year institutions, variables that had observed relationships with attrition for public 2-year students were included in the multivariate model. Results for public 4-year, private not-for-profit 4-year, and public 2-year institutions are shown in tables 9, 10, and 11, respectively. In each table, the first column shows the unadjusted percentage of students who left college as presented above. Regression coefficients were used to generate the adjusted percentages shown in the second column (holding the other variables in the table constant). For each row variable in the table, the category in italics is the reference category, the one against which the other categories of the variable are compared in tests of statistical significance. Numbers designated with asterisks in the first and second columns indicate that the percentage of students in that category who left college is significantly different from the percentage for the reference category. Rows containing an asterisk in the first but not the second column are cases in which the adjustment procedure leads to a different conclusion than one would reach based on the unadjusted percentages only.

Since most of the variables shown in the previous tables were found to be associated with departure among students who began at public 4-year institutions, the model shown in table 9 is quite large. Hispanic students were still less likely than Black, non-Hispanic students to leave college. Students who delayed postsecondary enrollment after high school were still more likely to leave college than those who did not delay, while age was no longer related to attrition once delayed enrollment and other factors were taken into account. Employed students who considered themselves to be primarily employees were more likely than others to depart, while employment status itself (full-time, part-time, or no employment) was no longer related to departure when other variables were controlled. Students' initial degree objective was still related to departure: those who did not plan to get a bachelor's degree at the initial institution were more likely than those who did seek a bachelor's there to leave. However, students' eventual educational expectations were no longer related to leaving once their initial objective and other variables were taken into account. Also, in the multivariate model, lower grades during the first year of enrollment were associated with a greater likelihood of attrition than were higher grades, while admissions test scores were no longer related to departure.

Table 9.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	18.8	18.8	-3.40	5.66
Race/ethnicity				
White, non-Hispanic	19.6	19.7	-1.77	2.69
Black, non-Hispanic	*25.4*	*21.4*	†	†
Hispanic	13.6*	13.4*	-8.09	3.31
Asian/Pacific Islander	10.5*	15.7	-5.76	3.93
Other	13.1	18.3	-3.17	7.88
1994 income quartile				
Lowest quartile	23.8*	21.2	2.84	2.50
Middle two quartiles	18.8	17.9	-0.41	1.92
Highest quartile	*15.2*	*18.3*	†	†
First generation status				
First-generation college student	25.0*	20.2	1.92	1.76
Not first-generation	*14.5*	*18.2*	†	†
Age				
18 or younger	*15.5*	*19.7*	†	†
19–23	21.7*	18.2	-1.48	1.91
24 or older	46.0*	11.7	-7.96	6.95
Delayed postsecondary enrollment after high school				
Did not delay	*15.5*	*17.5*	†	†
Delayed	33.2*	24.3*	6.83	2.66
Attendance intensity				
Full time	17.2*	18.9	-4.06	3.80
Mixed	14.9*	15.2	-7.76	4.37
Part time	*47.2*	*23.0*	†	†
Dependency status				
Dependent	*16.7*	*18.9*	†	†
Independent	42.0*	18.3	-0.61	5.68
Employment while enrolled				
Did not work	12.9*	16.7	-2.50	1.65
Worked part time	*18.7*	*19.2*	†	†
Worked full time	38.5*	24.5	5.23	2.71

See footnotes at end of table.

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Table 9.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Ever married				
Never married	*17.5*	*19.2*	†	†
Currently or previously married	47.0*	11.4	-7.80	7.00
Any dependents				
No dependents	*17.3*	*18.4*	†	†
Had dependents	46.7*	29.7	11.30	12.81
Single parent				
Not single parent	*18.0*	*19.1*	†	†
Single parent	39.6*	4.9	-14.20	8.95
High school completion type				
Regular diploma	*18.6*	*18.6*	†	†
Other	35.6	30.2*	11.59	5.72
Primary role				
Primarily or exclusively student	*16.4*	*18.3*	†	†
Primarily employee	44.0*	25.6*	7.33	3.18
Initial degree objective[5]				
Less than bachelor's	39.6*	27.7*	9.81	2.87
Bachelor's	*16.0*	*17.9*	†	†
Eventual education expectations[6]				
Don't know	24.4*	12.5	-8.59	8.91
Less than bachelor's	58.1*	21.2	0.16	6.55
Bachelor's	28.3*	18.7	-2.41	2.26
Advanced degree	*13.5*	*21.1*	†	†
First term enrolled				
Fall	*17.7*	*19.3*	†	†
Other	35.9*	12.8	-6.44	3.42
Any remedial courses 1995–96				
No remedial courses	*17.8*	*18.5*	†	†
Any remedial courses	24.3*	20.6	2.16	2.12
Grade point average 1995–96				
2.75 or higher	*8.8*	*11.3*	†	†
Under 2.75	27.8*	25.8*	14.50	1.59

See footnotes at end of table.

Table 9.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Combined SAT scores[7]				
Not available	33.5*	15.8	-2.30	3.22
1000 or below	*20.1*	*18.1*	†	†
Over 1000	12.5*	21.0	2.91	1.85
Financial aid amount				
No financial aid	20.2*	19.1	1.44	2.44
$3,000 or less	22.0*	20.6	2.94	2.38
$3,001–$6,000	19.5*	17.3	-0.30	2.40
More than $6,000	*12.5*	*17.6*	†	†
Price of attendance[8]				
$6,000 or less	44.5*	31.8*	17.40	3.33
$6,001–$9,000	20.5*	20.1*	5.73	2.35
$9,001–$12,000	12.7	14.7	0.31	2.15
More than $12,000	*8.7*	*14.4*	†	†
Social integration				
Low	28.1*	18.9	0.02	1.86
High	*14.6*	*18.8*	†	†
Academic integration				
Low	31.1*	24.2*	7.12	1.85
High	*15.0*	*17.1*	†	†
Residence while enrolled				
School-owned housing	*14.7*	*19.8*	†	†
With parents or other relatives	22.4*	16.1	-3.67	2.18
Other	27.9*	19.6	-0.19	2.47
Institution graduation rate[9]				
33 percent or less	28.4*	20.2*	6.82	2.99
34–67 percent	18.9*	19.7*	6.28	2.35
More than 67 percent	*4.9*	*13.4*	†	†
Transfer status				
Did not transfer	*19.8*	*20.7*	†	†
Transferred by 1998	15.0*	11.5*	-9.18	1.90

See footnotes at end of table.

Table 9.—Percentage of 1995–96 beginning postsecondary students at public 4-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Change in education expectations, 1996 to 1998[10]				
Never expected or decreased from graduate degree expectations	34.0*	25.3*	15.26	2.00
Always expected or increased to graduate degree expectations	*8.1*	*10.0*	†	†
Clarified expectations	23.9*	29.6*	19.58	9.17
Don't know in 1998	41.3*	34.3*	24.27	5.21
Change in number of dependents				
Never had dependents	*15.9*	*17.3*	†	†
Increased number	60.3*	43.2*	25.89	4.22
Decreased or same number	44.2*	29.3	11.96	11.94

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

[5]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[6]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[7]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Nine percent of students beginning at public 4-year institutions were missing this information. See appendix A for details.

[8]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

[9]Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

[10]Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

NOTE: The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 10.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions the who left without a credential and did not return by spring 1998, and adjusted percentage controlling for covariation of the variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	17.2	17.2	-8.59	6.16
Race/ethnicity				
White, non-Hispanic	16.1	18.0	5.89	3.61
Black, non-Hispanic	*22.7*	*12.1*	†	†
Hispanic	23.8	18.2	6.13	4.43
Asian/Pacific Islander	10.3*	14.9	2.74	5.07
Other	(#)	(#)	(#)	(#)
1994 income quartile				
Lowest quartile	*26.5*	*19.3*	†	†
Middle two quartiles	16.9*	16.8	-2.45	2.69
Highest quartile	11.3*	16.2	-3.05	3.24
First generation status				
First-generation college student	28.7*	21.5*	5.77	2.43
Not first-generation	*12.8*	*15.7*	†	†
Age				
18 or younger	*13.3*	*18.4*	†	†
19–23	20.7*	18.2	-0.21	2.46
24 or older	45.1*	([5])	-23.01	8.88
Delayed postsecondary enrollment after high school				
Did not delay	*13.6*	*16.4*	†	†
Delayed	33.8*	20.8	4.40	3.57
Attendance intensity				
Full time	*14.1*	*16.5*	†	†
Mixed	31.0*	25.3*	8.80	4.18
Part time	50.8*	20.1	3.68	5.92
Dependency status				
Dependent	*14.4*	*17.4*	†	†
Independent	44.5*	14.4	-2.98	6.83
Employment while enrolled				
Did not work	14.6*	18.2	0.40	4.14
Worked part time	13.9*	*16.4*	-1.38	3.93
Worked full time	*37.8*	*17.8*	†	†

See footnotes at end of table.

Table 10.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions the who left without a credential and did not return by spring 1998, and adjusted percentage controlling for covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Ever married				
Never married	*15.3*	*16.4*	†	†
Currently or previously married	62.4*	36.3*	19.89	8.22
Any dependents				
No dependents	*15.4*	*17.3*	†	†
Had dependents	58.4*	13.9	-3.32	18.55
Single parent				
Not single parent	*16.2*	*17.2*	†	†
Single parent	47.2*	15.4	-1.83	13.42
High school completion type				
Regular diploma	*16.6*	*17.2*	†	†
Other	37.4*	17.1	-0.12	6.55
Primary role				
Primarily or exclusively student	*14.4*	*17.0*	†	†
Primarily employee	42.5*	19.7	2.68	4.79
Initial degree objective[6]				
Less than bachelor's	45.5*	30.2*	14.47	3.72
Bachelor's	*13.1*	*15.8*	†	†
Eventual education expectations[7]				
Don't know	22.2*	26.7	11.84	14.51
Less than bachelor's	(#)	(#)	(#)	(#)
Bachelor's	26.1*	10.7	-4.18	3.16
Advanced degree	*11.7*	*14.9*	†	†
First term enrolled				
Fall	*15.8*	*17.1*	†	†
Other	42.5*	17.6	0.45	5.35
Any remedial courses 1995–96				
No remedial courses	*15.6*	*17.4*	†	†
Any remedial courses	21.9	15.3	-2.11	3.37
Grade point average 1995–96				
2.75 or higher	*8.5*	*10.6*	†	†
Under 2.75	28.9*	25.7*	15.06	2.08

See footnotes at end of table.

Table 10.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions the who left without a credential and did not return by spring 1998, and adjusted percentage controlling for covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Combined SAT scores[8]				
Not available	44.31*	20.4	5.06	4.68
1000 or below	*19.8*	*15.3*	†	†
Over 1000	7.9*	18.5	3.20	2.47
Financial aid amount				
No financial aid	18.1	19.0	2.00	3.30
$6,000 or less	25.2*	16.3	-0.74	3.02
$6,001– $12,000	16.3	17.0	-0.03	2.83
More than $12,000	*9.8*	*17.0*	†	†
Price of attendance[9]				
$15,000 or less	36.9*	26.5*	11.67	4.23
$15,001–$20,000	10.5*	11.8	-2.99	3.67
$20,001–$25,000	7.8	12.8	-1.96	3.38
More than $25,000	*4.8*	*14.8*	†	†
Social integration				
Low	34.7*	22.3*	6.50	3.06
High	*11.5*	*15.8*	†	†
Academic integration				
Low	33.3*	21.1	4.69	2.95
High	*13.1*	*16.4*	†	†
Residence while enrolled				
School-owned housing	*12.2*	*18.3*	†	†
With parents or other relatives	27.8*	11.8*	-6.49	3.26
Other	43.5*	16.9	-1.41	5.43
Institution graduation rate[10]				
33 percent or less	39.1*	22.8*	9.42	4.51
34–67 percent	20.1*	19.0	5.60	2.87
More than 67 percent	*6.7*	*13.4*	†	†
Transfer status				
Did not transfer	*16.7*	*18.6*	†	†
Transferred by 1998	19.0	12.3*	-6.23	2.43

See footnotes at end of table.

Table 10.—Percentage of 1995–96 beginning postsecondary students at private not-for-profit 4-year institutions the who left without a credential and did not return by spring 1998, and adjusted percentage controlling for covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Change in education expectations, 1996 to 1998[11]				
Never expected or decreased from graduate degree expectations	33.6*	29.0*	13.52	2.91
Always expected or increased to graduate degree expectations	*8.9*	*15.5*	†	†
Clarified expectations	21.3*	10.5	-5.02	14.91
Don't know in 1998	29.2*	21.8	6.26	9.07
Change in number of dependents				
Never had dependents	*13.8*	*15.5*	†	†
Increased number	58.9*	41.5*	25.96	5.45
Decreased or same number	56.0*	38.3	22.83	19.52

#Too small to report.

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

[5]Adjusted percentage calculated from regression coefficients is below zero, outside the range of possible percentages.

[6]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[7]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[8]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Ten percent of students beginning at private not-for-profit 4-year institutions were missing this information. See appendix A for details.

[9]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

[10]Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

[11]Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

NOTE: The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 11.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	43.6	43.6	50.13	16.79
Age				
18 or younger	33.6*	42.9	1.57	11.11
19–23	42.1*	46.2	4.89	9.59
24 or older	*59.5*	*41.3*	†	†
Delayed postsecondary enrollment after high school				
Did not delay	*33.1*	*43.8*	†	†
Delayed	55.4*	43.5	-0.28	7.45
Attendance intensity				
Full time	33.4*	42.5	-2.22	6.62
Mixed	37.1*	43.9	-0.81	7.02
Part time	*58.0*	*44.7*	†	†
Dependency status				
Dependent	*35.6*	*38.4*	†	†
Independent	59.0*	54.5	16.17	10.04
Employment while enrolled				
Did not work	43.1*	37.2*	-15.76	7.22
Worked part time	32.7*	39.3*	-13.71	5.48
Worked full time	*59.0*	*53.0*	†	†
Ever married				
Never married	*39.1*	*42.9*	†	†
Currently or previously married	60.4*	46.4	3.53	8.54
Any dependents				
No dependents	*40.4*	*49.2*	†	†
Had dependents	55.4*	20.9	-28.27	16.22
Primary role				
Primarily or exclusively student	*38.6*	*43.9*	†	†
Primarily employee	57.7*	42.9	-1.06	5.84
Initial degree objective[5]				
None	*64.2*	*59.0*	†	†
Certificate	43.6*	22.8*	-36.21	8.89
Associate's	42.4*	43.0*	-16.00	7.44
Bachelor's or transfer to 4-year	33.3*	45.9	-13.15	8.08

See footnotes at end of table.

Table 11.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Eventual education expectations[6]				
Don't know	48.1	49.2	6.91	14.71
Less than bachelor's	60.3*	42.4	0.08	8.35
Bachelor's	42.4	41.9	-0.46	5.90
Advanced degree	*33.7*	*42.3*	†	†
Primary reason for enrolling[7]				
Job skills	58.1*	47.4	8.07	7.11
Degree or certificate	46.4*	43.2	3.90	6.30
Transfer to 4-year	*29.3*	*39.3*	†	†
Other transfer	64.1*	66.9*	27.61	13.97
Personal enrichment	54.6*	45.5	6.17	6.92
Grade point average 1995–96				
2.75 or higher	*38.4*	*37.8*	†	†
Under 2.75	47.2*	47.9*	10.15	4.58
Combined SAT scores[8]				
Not available	*53.9*	*47.7*	†	†
1000 or below	29.4*	37.3	-10.39	5.57
Over 1000	20.4*	40.4	-7.23	10.35
Price of attendance[9]				
$3,000 or less	60.2*	48.9	8.70	7.55
$3,001–$6,000	39.1	42.3	2.16	5.41
More than $6,000	*32.9*	*40.2*	†	†
Social integration				
Low	48.6*	44.0	1.44	5.54
High	*29.9*	*42.5*	†	†
Academic integration				
Low	49.1*	41.4	-5.46	4.80
High	*36.8*	*46.9*	†	†
Residence while enrolled				
School-owned housing	30.6*	51.8	11.86	10.83
With parents or other relatives	41.2	45.0	5.02	5.99
Other	*51.9*	*39.9*	†	†

See footnotes at end of table.

Table 11.—Percentage of 1995–96 beginning postsecondary students at public 2-year institutions who left without a credential and did not return by spring 1998, and adjusted percentage controlling for the covariation of the variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Transfer status				
Did not transfer	*53.5*	*51.3*	†	†
Transferred by 1998	13.9*	20.7*	-30.60	5.61
Change in education expectations, 1996 to 1998[10]				
Never expected or decreased from graduate degree expectations	49.6*	48.3	11.14	5.97
Always expected or increased to graduate degree expectations	*24.3*	*37.1*	†	†
Clarified expectations	40.7	34.3	-2.82	15.46
Don't know in 1998	61.9*	55.3	18.13	10.34
Change in number of dependents				
Never had dependents	*37.0*	*38.0*	†	†
Increased number	61.0*	56.1*	18.12	8.23
Decreased or same number	54.0*	59.9	21.87	16.57

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

[5]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[6]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[7]Applies only to students who began at public 2-year institutions.

[8]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Sixty percent of students beginning at public 2-year institutions were missing this information. See appendix A for details.

[9]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

[10]Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

NOTE: The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Price of attendance was related to attrition in the multivariate analysis. Students whose price of attendance was $9,000 or below were more likely to leave than those whose price of attendance was more than $12,000. However, after taking other variables into consideration, financial aid was not associated with departure. This combination of results suggests that the rate of departure is lower at higher priced public 4-year institutions, after taking financial aid and other variables into account.

In addition, low academic integration was still associated with a higher rate of attrition in the multivariate model, as were lower institutional graduation rates. Finally, changes in institution, education expectations, and number of dependents were still associated with departure in the multivariate model. Students who transferred to a different institution were less likely to leave postsecondary education altogether. Students whose educational expectations remained high or increased were more likely than other groups to remain enrolled. And students who had children during the 3-year period were more likely to have dropped out than students who never had dependents.

Some of these results were also found among students who began at private not-for-profit institutions (table 10). Beginning postsecondary students who had objectives that did not include a bachelor's degree from the initial institution had a higher rate of attrition, whereas their eventual educational expectations were no longer associated with departure in the multivariate model. Students whose grades averaged less than 2.75 were more likely than those whose grades were higher to leave postsecondary education once admissions test scores and other variables were taken into account. Students who had more dependents in 1998 than when they began college were more likely to leave than those who had never had dependents.

In addition, similar relationships between departure and financial aid and price of attendance were found among students who began at private 4-year institutions. Students in the highest category of price of attendance were less likely to leave than those in the lowest category, while no relationship of financial aid to departure was found in the regression analysis. Again, this combination of results suggests that attrition is lower at higher priced institutions, even within institution types.

Other results for private not-for-profit 4-year institutions differed from those for public 4-year institutions. Low social integration (rather than low academic integration, as was found at public institutions) was associated with a higher rate of attrition among students who began at private 4-year colleges and universities. Students whose attendance intensity during their first year of enrollment was mixed were more likely to leave than those who attended full time after considering other factors. And students who had been married were more likely than those who

were never married to have departed by spring 1998 in the multivariate analysis for private 4-year institutions.

While a number of significant relationships were found in the multivariate models for 4-year institutions, relatively few factors were significant for public 2-year institutions. Many of those factors that were related to departure in the multivariate analysis, however, were also found to be significant for public and private not-for-profit 4-year institutions. Initial degree objectives from the first institution were related to departure at community colleges as well as at 4-year institutions. Students who planned to get a certificate or an associate's degree from the community college where they began were less likely to have left within 3 years than students who did not plan to get any kind of credential from the institution. Also, lower grades during the first year of enrollment were associated with a higher rate of departure when other variables were taken into account, and students who had transferred to other institutions by spring 1998 were less likely to have left postsecondary education altogether. Finally, students who had more children during the 3-year period again had a higher rate of departure than did students who never had any dependents.

Employment while enrolled was related to departure among students who began at community colleges when other factors were controlled, a relationship that was not detected among students who began at 4-year institutions. Students who did not work or who worked part time were less likely to leave without a credential than students who worked full time during their first year of postsecondary education even after other factors were taken into account.

Summary

This section of the report has focused on factors associated with departure without a credential from postsecondary education within 3 academic years of first enrollment. Students who began at public and private not-for-profit 4-year institutions were less likely than those who began at public 2-year institutions to leave postsecondary education during this period.

In both bivariate and multivariate analyses, several factors were associated with departure at all three types of institutions. Initial degree objectives from the first institution at which the student enrolled were associated with departure in all types of institutions, with lower objectives generally associated with a higher rate of departure. Educational plans did vary by institution type, with students who began at public 2-year institutions generally having lower expectations or initial degree objectives than those who began at public or private not-for-profit 4-year institutions as well as having a wide range of reasons for enrolling at a community college. Still, students who began at community colleges did have relatively high goals, with approximately

one-third (29 percent) expecting to eventually complete an advanced degree and 38 percent claiming that their primary reason for enrollment was to transfer to a 4-year institution.

Lower academic performance during the first year of enrollment was associated with a higher rate of attrition at all three types of institutions, even when controlling for the many other factors associated with departure. Finally, transfer between institutions and change in dependents from students' initial entry into college until 1998 were generally associated with departure, even when other variables were taken into account. For example, among students beginning at all three types of institutions, those who transferred to another institution were less likely to have left college altogether, and students who had more children during the 3-year period had higher rates of attrition than those who never had dependents. These relationships demonstrate that changes can occur during students' postsecondary enrollment that may attenuate the effects of their initial enrollment characteristics.

Other characteristics, however, were associated with departure from 4-year institutions, but not with departure from public 2-year institutions. A higher price of attendance was associated with a lower likelihood of attrition at 4-year institutions, while this relationship was not found among students who began at public 2-year institutions. In addition, among students who began at 4-year institutions, attending colleges with higher graduation rates was associated with lower attrition. However, this relationship was not detected among students who began at public 2-year institutions.

Reasons for Early Departure

Up to this point, this report has examined factors associated with departure from postsecondary education within 3 years of first entering a postsecondary institution. However, as described in the introduction, most studies of the reasons that students themselves give for leaving college are limited in scope, and an exploration of what student and enrollment characteristics are associated with students' own accounts of their attrition has not been carried out on a nationally representative scale. This section looks only at those students who did leave college without a credential within 3 years of entry, describing the reasons they gave for their departure and the factors associated with those reasons.

What Reasons Did Short-Term Enrollees Give for Their Departure?

The 1995–96 beginning postsecondary students who had left by 1998 without a credential gave a variety of reasons for their departure (table 12 and figure 5). Students were generally more likely to say that they left because they needed to work or for other financial reasons than to give other reasons. About one-quarter (26 percent) of leavers cited needing to work as a reason for their departure, and 16 percent identified other financial reasons. Ten percent said that they had completed the classes they wanted or that they had conflicts at home or personal problems; 8 percent cited a change in their family status; 7 percent said they were taking time off from their studies; 6 percent indicated conflicts with their jobs or said that they were not satisfied; and 4 percent identified academic problems as a cause of their departure. Although short-term enrollees could identify up to three reasons for their departure, most (61 percent) identified only one of the reasons considered here, and about one-quarter (24 percent) did not cite any of these reasons.[7]

Among students who left, those who began at 4-year institutions were more likely than those who began at public 2-year institutions to say that they left because of academic problems (9 versus 2 percent) or a change in family status (12 versus 6 percent; table 12). Those who began at public 2-year institutions were more likely than those who began at 4-year institutions to say they left because they were done taking the classes they wanted (12 versus 5 percent) or because they needed to work (29 versus 17 percent).

[7]U.S. Department of Education, National Center for Education Statistics, 1996–98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98), Data Analysis System.

Table 12.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by first institution type and last year of enrollment

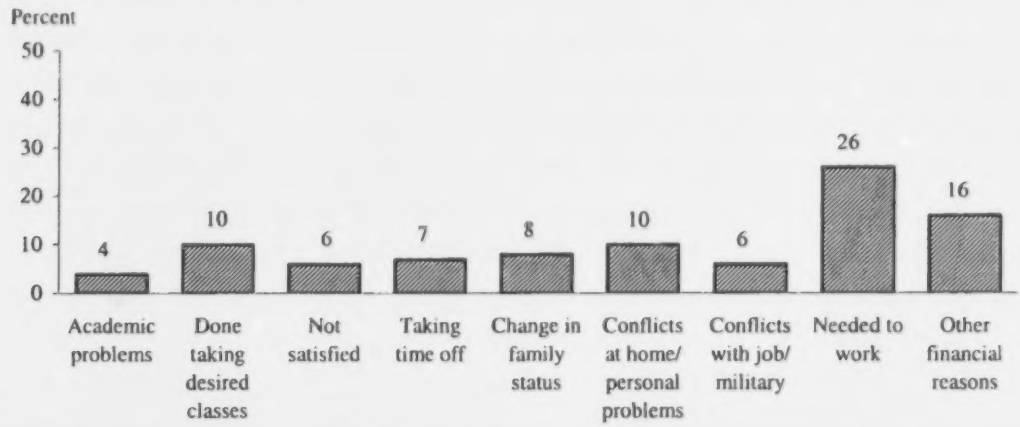
	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
First institution type									
4-year	9.2	4.7	8.9	7.4	12.4	12.0	3.3	16.8	19.3
Public 4-year	11.1	4.8	8.1	7.8	11.3	11.0	2.9	16.9	17.0
Private not-for-profit 4-year	4.7	4.4	10.9	6.6	14.9	14.4	4.3	16.5	24.5
Public 2-year	2.0	12.0	5.2	7.1	5.8	8.7	7.2	29.0	14.2
Last year of enrollment									
1995–96	3.3	14.2	7.6	4.0	7.5	8.4	6.2	23.4	13.3
1996–97	4.3	7.2	5.1	9.6	9.1	10.6	6.4	25.9	17.2
1997–98	5.9	1.0	3.9	13.6	4.9	12.2	5.6	33.0	20.4

#Too small to report.

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Figure 5.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure



NOTE: Respondents could give up to three reasons, including other reasons not listed here. Sixty-one percent identified only one of these reasons, and 24 percent did not cite any of these reasons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Among students who began at 4-year institutions and subsequently left without a credential, students from public institutions were more likely than those from private not-for-profit institutions to say they left because of academic problems (11 versus 5 percent) and less likely to say they left for other financial reasons (17 versus 24 percent). Otherwise, no differences were detected in the reasons given by short-term enrollees from public and private not-for-profit 4-year institutions.[8]

The previous section showed that a greater proportion of students left in the first year of postsecondary enrollment than in subsequent years, at least among community college students. Among beginning postsecondary students who left within 3 years, those who had left more recently were less likely to say that they left because they were done taking the classes they wanted. While 14 percent of students who left in their first year gave this reason, 1 percent of those who left in the third year of enrollment did so. Other reasons for departure, however, were not found to be associated with the year that students left college.

What Factors Were Associated With Reasons for Early Departure?

Student Background Characteristics

Among beginning postsecondary students who left within 3 academic years, women were more likely than men to say that they left because of a change in family status or because of conflicts at home or personal problems (table 13). This result is consistent with observations in the literature that women are more likely to leave for these reasons because of their greater responsibilities for other family members (Bonham and Luckie 1993). In contrast, men were more likely than women to say they left because of academic problems or because they needed to work.

White students who left were more likely than Asian students to say they left because of conflicts with their jobs, and Black students who left were more likely than Asian students to say they left because of financial reasons other than needing to work. While it appeared that other reasons for departure were associated with race/ethnicity, the standard errors for several groups were very large and the differences were not statistically significant.

Higher income students who left were less likely than their lower income counterparts to say that they left because of a change in family status. For example, 2 percent of high-income

[8]Because of the relatively few differences in reasons between students from the two types of 4-year institutions and because the sample sizes of students who departed are small, students from public and private not-for-profit 4-year institutions are combined in additional analyses below.

Table 13.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by student background characteristics

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
Gender									
Male	6.1	10.0	7.9	7.6	3.9	6.2	7.3	31.3	13.0
Female	2.1	9.9	4.8	6.9	10.9	12.8	5.1	20.5	17.9
Race/ethnicity									
White, non-Hispanic	4.1	10.2	5.6	7.8	8.2	7.6	5.4	26.7	13.1
Black, non-Hispanic	1.9	4.8	10.3	2.6	6.1	15.0	9.8	18.2	28.7
Hispanic	5.1	10.1	6.7	10.3	6.3	14.9	8.4	25.3	14.0
Asian/Pacific Islander	8.3	25.2	2.1	6.9	9.1	13.6	0.1	36.1	5.2
Other	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)
1994 income quartile									
Lowest quartile	3.2	7.3	7.3	7.5	11.8	10.0	5.7	25.3	14.7
Middle two quartiles	3.7	10.0	6.1	6.6	6.9	8.1	5.3	30.3	16.9
Highest quartile	6.8	15.8	5.2	9.2	2.3	15.0	10.6	12.8	14.2
First generation status									
First-generation college student	2.7	12.1	7.1	4.9	9.1	12.2	8.5	26.6	14.4
Not first-generation	5.4	4.9	7.4	6.3	7.8	8.2	5.9	24.1	16.1

#Too small to report.

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

leavers cited this reason, while 12 percent of low-income students did so. In addition, students in the middle two income quartiles were more likely than those in the highest quartile to leave because they needed to work (30 versus 13 percent), and there was some evidence that students in the lowest income quartile were also more likely to cite this reason.[9] Finally, students whose parents had not gone to college were more likely to leave because they were done taking their desired classes than those with college-educated parents (12 versus 5 percent).

Although short-term enrollees cited academic problems relatively infrequently as a reason for their departure, the evidence from the first section of this report showed that first-year grades

[9]The difference between students in the lowest and highest income quartiles was significant at the 0.10 level rather than the 0.05 level.

were consistently associated with attrition in all institution types. There was some evidence that students with nontraditional characteristics who left were less likely than their counterparts without these characteristics to cite academic problems as a cause of departure from postsecondary education (table 14). Students who enrolled full time during their first year were more likely than other students to cite this reason (7 versus 0.2–2 percent). In addition, those who did not have dependents or who were not single parents were more likely than those with dependents or who were single parents to cite academic problems, and those with regular high school diplomas were more likely than those who had completed high school in some other way to do so. Finally, students who worked more hours while enrolled during their first year of postsecondary education were less likely to say they left because of academic problems.

On the other hand, students with nontraditional characteristics who left postsecondary education without a credential were more likely to say they were done taking the classes they wanted. For example, 23 percent of leavers who were 24 years old or more when they began postsecondary education gave this reason, compared with 5 percent of younger students who left. Independent students, those who had ever been married, and those who enrolled part time during their first year of college were more likely than others to indicate that they were done taking classes.

Students with nontraditional characteristics who left were also less likely than students without such characteristics to indicate that they had done so because they needed to work. For example, 31 percent of dependent students gave this reason, compared with 19 percent of independent students. Similarly, about 3 in 10 students who had never been married (30 percent) or who had no dependents (29 percent) said that they needed to work, compared with 13 percent of students who had ever married and 15 percent of students with dependents.[10]

Among short-term enrollees who were employed during their first year of enrollment, those who said that their primary role was as an employee rather than as a student were more likely than those who said they were primarily students to say that they left because they were done taking the classes they wanted (15 versus 6 percent; table 15). Other differences by primary role were not detected, however.

[10]While it appeared that students who went to college within a year of completing high school were more likely than those who delayed entry to leave because they needed to work, standard errors were large and this difference was not statistically significant.

Table 14.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by nontraditional student characteristics

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
Age									
18 or younger	5.4	4.7	6.7	10.7	7.7	10.3	2.6	32.7	16.8
19–23	4.1	5.3	8.2	6.1	8.4	8.7	10.8	25.6	16.3
24 or older	2.1	23.3	3.5	4.3	6.8	10.4	5.3	17.3	13.7
Delayed postsecondary enrollment after high school									
Did not delay	5.3	3.8	7.1	8.8	8.4	9.2	3.7	30.3	16.7
Delayed	2.8	15.4	5.8	6.1	6.8	7.9	6.8	20.8	15.3
Attendance intensity									
Full time	7.1	5.2	6.9	5.3	11.7	11.4	5.5	24.5	14.6
Mixed	0.2	2.0	7.7	17.2	4.8	7.2	5.4	37.4	16.9
Part time	2.1	18.7	5.4	6.1	4.3	9.2	7.5	21.6	16.7
Dependency status									
Dependent	5.3	4.3	8.1	9.1	7.1	7.6	4.6	30.8	18.2
Independent	2.2	19.6	3.3	5.1	8.5	12.6	10.0	19.0	12.9
Employment while enrolled									
Did not work	7.9	9.1	5.8	6.7	10.7	12.8	6.1	22.8	11.9
Worked part time	5.1	5.4	11.4	4.6	8.5	8.1	5.1	23.2	19.6
Worked full time	1.7	16.1	2.6	8.5	4.9	10.4	9.0	22.8	17.8
Ever married									
Never married	4.5	5.8	7.1	8.5	6.7	8.5	6.0	29.5	16.3
Currently or previously married	2.4	23.2	3.7	3.2	10.5	13.1	6.5	13.4	13.6
Any dependents									
No dependents	5.1	7.7	6.8	8.6	7.6	6.8	4.6	29.1	15.3
Had dependents	0.4	17.2	4.6	3.6	7.2	18.7	13.8	15.4	19.3
Single parent									
Not single parent	4.5	9.5	6.4	8.4	7.6	8.2	5.3	27.5	15.7
Single parent	0.8	10.7	6.0	0.1	6.1	19.3	17.5	14.7	19.5
High school completion type									
Regular diploma	4.4	8.7	6.8	8.0	7.4	8.7	4.5	26.8	16.1
Other	0.4	19.9	2.2	1.1	9.4	17.0	19.2	16.0	11.3

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Row variables are for the 1995–96 academic year. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 15.—Percentage of employed 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by primary role while employed in 1995–96

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	3.2	10.1	6.3	7.3	6.9	9.0	6.2	26.2	16.4
Primary role									
Student working to meet expenses	4.2	6.1	9.7	5.6	7.3	9.5	8.9	24.1	18.3
Employee who is enrolled	2.3	15.5	3.4	8.4	6.1	8.5	5.1	23.2	18.0

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Students' Educational Expectations and Other Academic Characteristics

Consistent with their stated educational goals, among those who knew their educational expectations, those leavers with lower educational expectations were more likely to say that they left because they were done taking the classes they wanted (table 16). This was true both for eventual educational goals and for the degree objective at the first institution at which the students enrolled. Among students leaving postsecondary education who began at community colleges, those whose primary reason for enrolling initially was to obtain job skills were more likely than those who enrolled for other reasons to say they left because they were done with the classes they wanted (30 versus 3–8 percent).

In addition, leavers who had identified their initial degree objective as an associate's degree or higher were generally more likely to say that they left for other financial reasons than those who planned to complete a certificate or no degree (21 versus 7–8 percent). While it appeared that the same association was found for eventual educational expectations, the relationship was not statistically significant.

Other academic characteristics were also associated with the reasons that short-term enrollees gave for their departure from postsecondary education. Students leaving postsecondary education who had lower first-year grades were more likely to leave for academic reasons (6 versus 1 percent). In addition, those who began in the fall term were more likely to leave for academic reasons than those who began later in the year (5 versus 2 percent). Students who had

Table 16.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by academic characteristics

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
Initial degree objective[1]									
None	5.2	28.8	6.2	2.9	5.4	9.4	3.5	15.9	7.4
Certificate	0.0	17.4	1.5	1.0	4.1	4.8	11.1	30.2	7.8
Associate's	1.1	8.2	5.5	8.3	9.1	13.6	11.2	25.0	20.8
Bachelor's or transfer to 4-year	8.0	2.3	10.7	8.1	7.2	8.1	3.7	21.1	20.7
Eventual education expectations[2]									
Don't know	2.5	9.5	4.6	10.3	7.8	8.5	7.1	34.0	9.1
Less than bachelor's	4.4	21.6	3.1	2.8	4.7	14.2	9.1	23.6	8.8
Bachelor's	4.2	8.9	8.7	10.7	7.4	8.8	2.1	29.7	16.4
Advanced degree	4.7	1.6	7.7	4.8	10.4	9.0	8.0	19.0	23.7
Primary reason for enrolling[3]									
Job skills	1.7	29.6	1.0	8.9	4.5	9.4	9.9	16.8	9.0
Degree or certificate	1.8	7.7	6.6	5.6	8.6	15.2	10.7	20.8	22.4
Transfer to 4-year	1.2	2.5	8.3	7.1	8.6	12.2	6.3	29.1	20.9
Other transfer	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)
Personal enrichment	3.9	6.2	12.1	1.5	4.8	3.1	7.4	32.1	8.2
First term enrolled									
Fall	4.7	10.2	5.8	8.2	6.6	8.4	4.9	27.0	16.0
Other	1.7	9.7	8.3	4.1	11.6	14.9	11.1	22.0	14.9
Any remedial courses 1995–96									
No remedial courses	4.2	10.2	8.0	7.4	6.7	8.7	5.9	21.2	17.7
Any remedial courses	4.0	8.5	2.9	5.1	9.8	14.3	10.8	29.5	13.5
Grade point average 1995–96									
2.75 or higher	1.2	18.9	2.6	7.7	8.1	8.3	4.4	26.9	12.1
Under 2.75	5.5	5.8	8.3	7.1	7.6	10.0	7.1	25.4	17.3
Combined SAT scores[4]									
Not available	2.1	15.2	4.0	7.1	5.7	9.8	8.7	26.1	14.8
1000 or below	5.4	3.1	10.2	6.5	10.0	9.6	2.8	26.8	15.5
Over 1000	12.6	0.7	5.3	11.9	11.6	8.6	2.3	16.0	22.5

#Too small to report.

[1]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[2]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[3]Applies only to students who began at public 2-year institutions.

[4]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Among those who left school without a credential, 74 percent of students who began at public 2-year institutions, 16 percent of students who began at public 4-year institutions, and 27 percent of students who began at private not-for-profit 4-year institutions were missing this information. See appendix A for details.

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Row variables are for the 1995–96 academic year. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

taken remedial classes or whose grades were higher were less likely than those without remediation or with lower grades to say they left because they were not satisfied.

Other Student and Institution Characteristics

There were also differences in the reasons that short-term enrollees gave for leaving according to their financial aid characteristics (table 17). Students leaving postsecondary education who had received financial aid during their first year of enrollment were more likely than unaided students to say they left because of a change in family status (10 versus 5 percent). Otherwise, no differences in reasons for leaving were detected between aided and unaided students.

Among leavers who received aid, those who had received larger amounts of aid were more likely than those receiving less aid to say they left because they were not satisfied and less likely to say they left because they were done taking the classes they wanted. For example, 11 percent of students receiving $3,000 or less in aid said they left because they were done, compared with 1 percent of students receiving more aid. Also, those who received aid without loans were more likely to say they were done with their desired classes than those who received aid with loans (12 versus 2 percent). Finally, those with a higher price of attendance were less likely to say they left because they were done taking the classes they wanted.

Among students leaving postsecondary education, those with lower social integration at the first institution were less likely than those who were more integrated into the institution's social life to leave for academic reasons and more likely to leave because they were done taking the classes they wanted (table 18). It may be the case that students who had only short-term goals for their postsecondary enrollment did not invest socially in the institutions they attended because they knew they would not be there for a long period of time (Tinto 1993). Alternatively, students with nontraditional characteristics (such as older independent students with families), who were more likely to say they left because they had achieved their goals, may also be less integrated socially into campus life than students who have more age peers on campus (Tinto 1993). Consistent with this possibility, students who initially lived in school-owned housing or with their parents or other relatives were also less likely than those with other housing arrangements to say they left because they were done with their desired classes (5–6 versus 17 percent).

Students who began at institutions with higher graduation rates were more likely than students at institutions with lower graduation rates to say they left school because of conflicts at home. These short-term enrollees were also less likely to say they left because they needed to work, compared with those at schools graduating smaller proportions of their students.

Table 17.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by financial aid characteristics

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
					Total				
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
Received financial aid									
No financial aid	2.9	12.1	7.5	5.0	5.1	7.9	7.5	26.5	14.5
Received financial aid	5.1	8.2	5.3	9.5	10.1	11.5	5.1	25.4	17.0
Financial aid amount[1]									
$3,000 or less	4.0	11.4	4.0	10.8	9.1	13.1	5.2	27.2	15.5
$3,001–$6,000	6.1	0.5	6.2	6.6	11.6	7.8	7.6	27.1	19.1
More than $6,000	9.5	1.4	10.6	6.3	13.8	8.0	1.2	14.3	22.3
Financial aid package[1]									
Aided, no loans	3.4	12.1	4.2	11.5	8.1	13.4	6.2	24.4	15.3
Aided with loans	7.8	1.8	7.1	6.2	13.4	8.5	3.4	27.2	19.9
Price of attendance[2]									
$6,000 or less	2.8	13.2	6.3	6.6	7.2	10.7	8.0	25.7	14.6
$6,001–$9,000	6.0	4.7	5.3	6.4	9.4	5.9	3.5	31.3	15.8
$9,001–$12,000	5.0	2.4	4.5	14.6	5.4	14.0	2.2	24.2	18.5
More than $12,000	9.9	2.3	12.6	9.6	10.1	8.0	2.1	11.9	25.9
					Full time				
Total	7.1	5.2	6.9	5.3	11.7	11.4	5.5	24.5	14.6
Received financial aid									
No financial aid	5.1	7.1	8.5	5.3	7.7	4.8	6.6	28.7	10.6
Received financial aid	8.0	4.3	6.1	5.3	13.8	14.8	5.0	22.4	16.6
Financial aid amount[1]									
$3,000 or less	7.3	6.9	3.7	4.4	13.5	19.3	7.6	26.3	13.7
$3,001–$6,000	7.5	0.4	8.1	7.6	13.1	8.7	1.8	20.6	19.8
More than $6,000	10.5	1.6	10.6	5.3	15.0	9.0	1.2	14.0	21.2
Financial aid package[1]									
Aided, no loans	6.1	8.6	4.1	4.0	12.8	20.3	8.8	21.3	13.7
Aided with loans	9.7	0.6	7.9	6.4	14.5	10.0	1.7	23.4	19.2
Price of attendance[2]									
$6,000 or less	5.0	9.6	6.0	3.1	14.1	15.5	9.8	26.5	11.9
$6,001–$9,000	8.8	0.7	6.3	4.3	11.0	6.7	1.5	27.5	10.7
$9,001–$12,000	6.4	3.1	6.3	12.9	6.7	12.0	3.3	20.5	25.2
More than $12,000	11.4	2.6	13.0	9.4	9.1	7.6	1.9	12.5	25.9

[1]Excludes those without financial aid.

[2]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Row variables are for the 1995–96 academic year. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 18.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by institution-related characteristics

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
Social integration									
Low	3.1	12.4	6.3	6.2	8.1	10.5	8.2	23.9	15.4
High	6.9	2.5	7.6	8.4	6.0	8.9	3.9	22.0	20.8
Academic integration									
Low	3.2	14.2	4.7	7.4	8.0	8.0	7.1	23.3	14.2
High	5.4	3.4	9.5	5.9	6.9	13.0	7.1	23.5	20.5
Residence while enrolled									
School-owned housing	11.6	5.8	11.2	10.3	9.0	6.9	1.9	20.7	23.1
With parents or other relatives	3.6	4.7	6.8	6.9	8.1	9.4	6.8	33.1	13.1
Other	1.3	17.3	3.4	6.7	6.7	11.2	7.6	19.0	15.4
Institution graduation rate*									
33 percent or less	2.8	9.3	5.4	7.4	7.4	8.7	7.3	28.6	14.6
34–67 percent	7.1	9.5	6.8	7.6	7.5	8.9	2.4	23.1	19.6
More than 67 percent	3.6	26.0	14.3	5.2	11.4	30.7	13.4	2.9	8.9

*Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Unless otherwise specified, row variables are for the 1995–96 academic year. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Changes in students' educational circumstances were also associated with the reasons they gave for departure from postsecondary education (table 19). Students leaving postsecondary education who had transferred between institutions were less likely than short-term enrollees who had not transferred to say they left because they were done with the classes they sought or because they had job conflicts. Compared with those who did not expect to get a graduate degree or who did not know in 1998 how much education they would complete, short-term enrollees whose eventual educational expectations always included or increased to a graduate degree were less likely to indicate that they left postsecondary education because they had completed the courses they wanted (2 versus 11–15 percent).

Table 19.—Percentage of 1995–96 beginning postsecondary students leaving by spring 1998 who gave various reasons for their departure, by change in family and education circumstances by 1998

	cademic problems	Done taking desired classes	Not satisfied	Taking time off	Change in family status	Conflicts at home/ personal problems	Conflicts with job/ military	Needed to work	Other financial reasons
Total	4.0	10.0	6.3	7.2	7.6	9.7	6.2	25.6	15.6
Transfer status									
Did not transfer	3.9	10.7	6.0	6.6	7.7	9.7	6.7	25.3	15.5
Transferred by 1998	4.4	4.4	8.2	12.0	6.8	9.3	2.2	28.6	16.3
Change in education expectations, 1996 to 1998*									
Never expected or decreased from graduate degree expectations	4.7	10.9	7.5	7.5	8.2	9.5	4.4	23.3	18.8
Always expected or increased to graduate degree expectations	4.2	2.0	8.1	4.7	5.1	11.7	9.2	23.3	15.7
Clarified expectations	3.4	7.0	3.7	12.8	10.8	10.1	4.8	39.0	8.8
Don't know in 1998	1.9	15.1	4.3	5.1	7.4	9.0	12.5	26.6	10.6
Change in number of dependents									
Never had dependents	5.9	7.6	8.0	9.6	3.0	7.4	4.4	30.3	16.5
Increased number	1.2	9.3	0.8	6.7	28.9	5.4	5.3	21.2	9.3
Decreased or same number	0.4	17.7	5.3	1.0	5.8	19.7	15.2	15.3	21.0

*Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

NOTE: Includes students who left postsecondary education without a credential and without returning by spring 1998. Excludes students who began at private not-for-profit less-than-4-year institutions, public less-than-2-year institutions, or private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

As expected, those postsecondary students leaving within 3 years who gained additional dependents during that time were much more likely than those who had never had dependents, or who had the same or a smaller number of dependents 3 years later, to say that they left because of a change in family status (29 versus 3–6 percent). Those who had never had dependents were more likely than others to say they left because of academic problems (6 versus 0.4–1 percent). They were also more likely than those who increased their number of dependents to say they left because they were not satisfied (8 versus 1 percent).

Did Institution Type Differences in Reasons for Early Departure Persist?

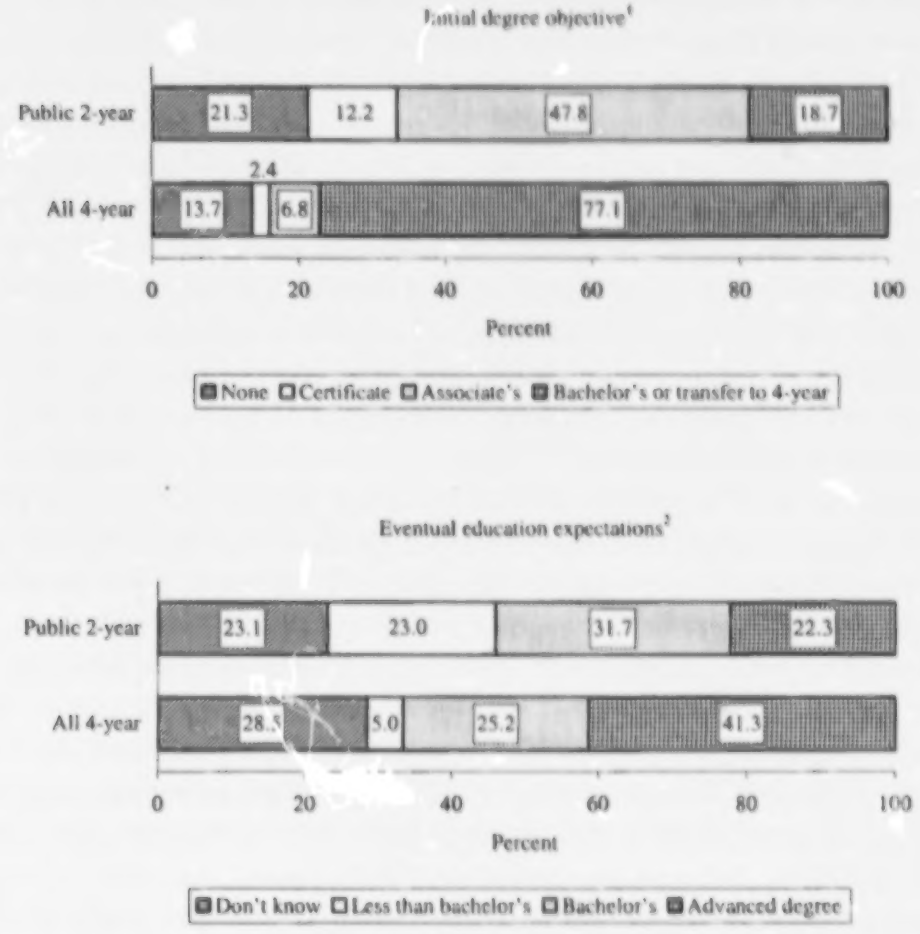
As shown for the analysis of departure from postsecondary education presented above, many of the factors associated with the reasons that short-term enrollees gave for their attrition may be correlated with one another. Because one purpose of this report is to focus on differences in the process of attrition for students who begin at various types of institutions, the remaining analyses are designed to explore those reasons for departure that differed by first institution type.

For example, higher initial degree objectives and eventual educational expectations were associated with a lower likelihood of departing because students said they were done taking their desired courses (table 16). Both degree objectives and educational expectations were associated with the type of institution at which students began postsecondary education. As among all beginning students (including those who did not leave; figure 2), leavers who began at public 2-year colleges were more likely than those who began at 4-year institutions to report that their initial degree goals were lower than a bachelor's degree (figure 6). For example, while 19 percent of short-term enrollees who began at public 2-year institutions had planned to transfer to a 4-year institution to complete a bachelor's degree, about three-quarters (77 percent) of students who began at a 4-year institution had planned to complete a bachelor's degree there.

Differences in the reasons for departure between students with and without nontraditional characteristics are also consistent with the different types of students served by 4-year compared with public 2-year institutions. Students with several nontraditional characteristics who left were less likely than students without these characteristics to cite academic problems as a cause of departure from postsecondary education (table 14), a reason also cited more often by short-term enrollees who began at 4-year institutions (table 12). On the other hand, students with nontraditional characteristics who left postsecondary education without a credential were more likely to say they were done taking the classes they wanted, as were those who began at public 2-year institutions. Among all beginning students as well as among those who left, students from public 2-year institutions were more likely than those from 4-year institutions to have each of the nontraditional student characteristics (figure 7).

Some differences in the reasons for leaving given by students at 2-year versus 4-year institutions are not consistent with differences in the types of students these institutions serve. For example, students without nontraditional characteristics (who are more often found at 4-year institutions) who left were more likely than students with nontraditional characteristics to indicate that they left because they needed to work, a reason cited more often by students from public 2-year institutions. The remainder of this section presents multivariate analyses of those reasons for departure—including academic problems, being done with desired classes, change in family status, and needing to work—that were cited at different rates by students who began at 4-

Figure 6.—Percentage distribution of 1995–96 beginning students who left without a credential according to initial educational goals, by first institution type



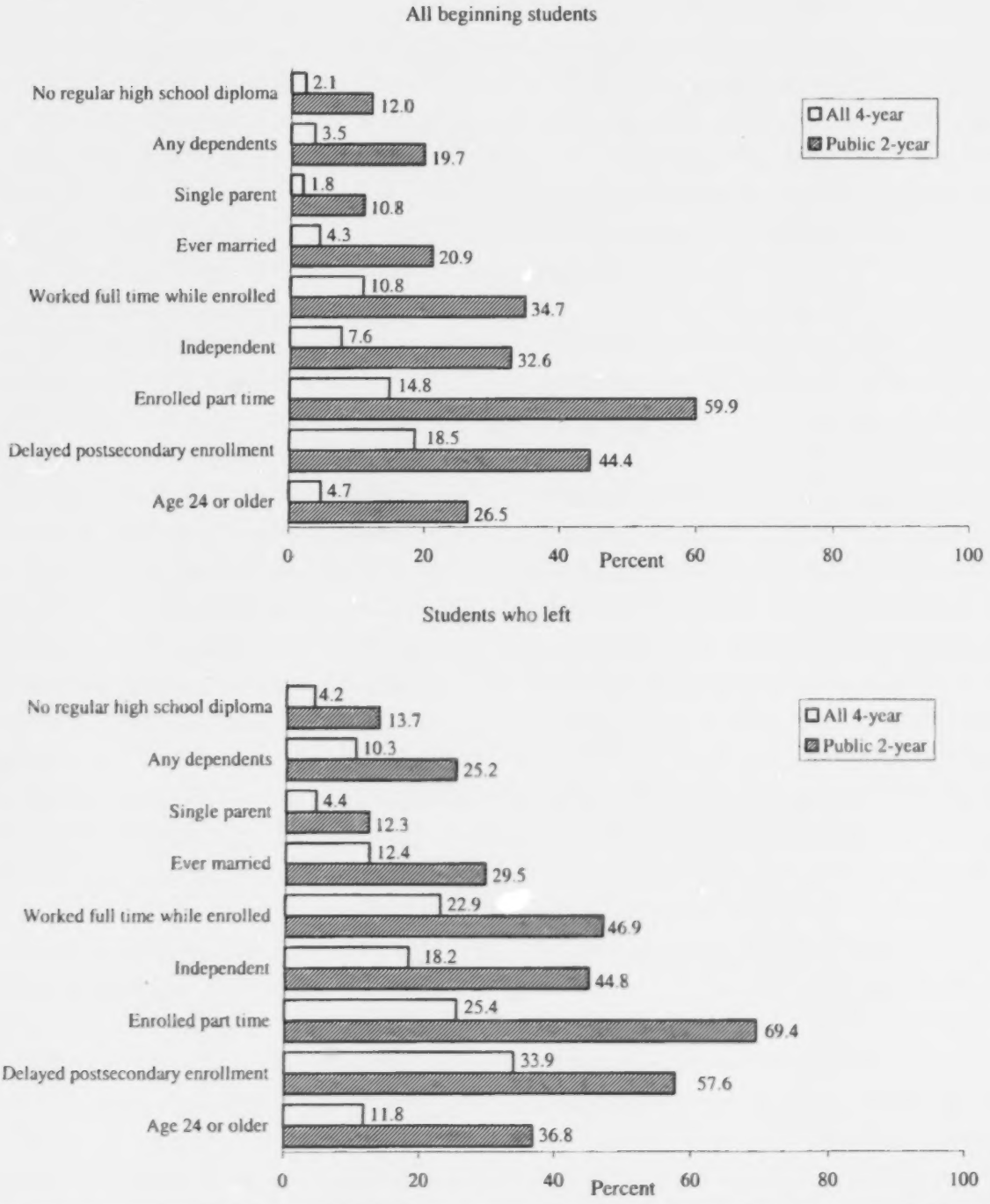
[1]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[2]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

year and at public 2-year institutions. For each reason, a multivariate analysis including the variables found to be related to that reason (as shown in tables 12–19) was conducted. The results are presented in tables 20 through 23, which can be interpreted in the same way as the results in tables 9–11. (For more information about the multivariate analysis strategy used in this report, consult appendix B.)

Figure 7.—Among 1995–96 beginning postsecondary students and those who left without a credential within 3 years, percentage who had nontraditional characteristics, by first institution type



SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 20 shows the unadjusted and adjusted percentages of short-term enrollees with various characteristics who indicated that they left because of academic problems. Once other variables were taken into account, the model revealed that only a few variables were associated with claiming this reason for departure. Female students who left were less likely than their male counterparts to leave for academic reasons, which is consistent with their generally higher academic performance. Two nontraditional characteristics were also associated with a lower likelihood of giving this reason in the regression analysis: attendance pattern and hours worked. Students with mixed part-time and full-time enrollment during their first year were less likely to give this reason than those who attended full time. In addition, short-term enrollees who worked full time while enrolled were less likely than those who did not work to leave for academic reasons. While no difference by institutional level was detected in the multivariate model, short-term enrollees whose initial degree objective was an associate's degree were less likely than those who intended to get a bachelor's degree or transfer to a 4-year institution from their first college to cite academic problems as a reason for departure.

Many student and institutional characteristics were associated with leaving postsecondary education because one's goals were accomplished—that is, because the student was done taking the desired classes (table 21). However, once all of these variables were considered together in a regression model, only two characteristics were associated with giving this reason. Consistent with their stated goals, students who never intended to complete a credential at their initial institution were more likely than those seeking a degree or certificate to indicate that they left because they were done taking the classes they wanted. However, as described above, this reason was not given by even a majority of those with no degree goals, suggesting that other reasons may have deterred them. Short-term enrollees with a lower GPA were less likely to say they left because they were done once other factors were taken into account, while no differences were found in the percentage giving this reason by institutional level in the regression model.

Relatively few student characteristics were associated with leaving because of a change in family status (table 22). However, most of these characteristics were also associated with this reason when included in the multivariate analysis. Female students, those from middle or lower income families, and those who attended full time were more likely than male, higher income, or less-than-full-time students to say they left because of a change in family status. Entirely consistent with the reason given, those who had more dependents in 1998 than when they began postsecondary education were more likely than others to say they left because of a change in family status after the adjustment procedure. In addition, even when taking into account other factors, students at public 2-year institutions were less likely than those at 4-year institutions to give this reason for leaving college.

Table 20.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because of academic reasons, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	4.0	4.0	9.94	3.52
First institution type				
Public 2-year	2.0*	3.6	-1.53	1.90
Public or private not-for-profit 4-year	*9.2*	*5.1*	†	†
Gender				
Male	*6.1*	*5.9*	†	†
Female	2.1*	2.4*	-3.50	1.16
Attendance intensity				
Full time	*7.1*	*5.2*	†	†
Mixed	0.2*	1.1*	-4.09	1.73
Part time	2.1*	4.0	-1.18	1.50
Employment while enrolled				
Did not work	7.9	7.1*	3.82	1.44
Worked part time	5.1*	([5])	-5.03	6.41
Worked full time	*1.7*	*3.2*	†	†
Any dependents				
No dependents	*5.1*	*3.8*	†	†
Had dependents	0.4*	4.8	1.04	3.97
Single parent				
Not single parent	*4.5*	*4.1*	†	†
Single parent	0.8*	3.3	-0.73	2.48
High school completion type				
Regular diploma	*4.4*	*4.3*	†	†
Other	0.4*	1.9	-2.34	1.92
Initial degree objective[6]				
None	5.2	5.4	-0.26	1.76
Certificate	0.0*	1.1	-4.48	2.30
Associate's	1.1*	2.5*	-3.11	1.58
Bachelor's or transfer to 4-year	*8.0*	*5.6*	†	†
First term enrolled				
Fall	4.7*	4.3	1.50	1.40
Other	*1.7*	*2.8*	†	†

See footnotes at end of table.

Table 20.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because of academic reasons, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Grade point average 1995–96				
2.75 or higher	*1.2*	*2.4*	†	†
Under 2.75	5.5*	4.8	2.41	1.25
Combined SAT scores[7]				
Not available	2.1*	3.8	-4.14	2.54
1000 or below	5.4	3.4	-4.59	2.35
Over 1000	*12.6*	*8.0*	†	†
Social integration				
Low	3.1*	4.4	1.46	1.48
High	*6.9*	*2.9*	†	†
Residence while enrolled				
School-owned housing	*11.6*	*6.9*	†	†
With parents or other relatives	3.6*	3.7	-3.19	1.99
Other	1.3*	3.1	-3.74	2.18
Institution graduation rate[8]				
33 percent or less	2.8	3.9	2.72	3.07
34–67 percent	7.1	4.7	3.51	3.10
More than 67 percent	*3.6*	*1.2*	†	†
Change in number of dependents				
Never had dependents	*5.9*	*4.6*	†	†
Increased number	1.2*	2.0	-2.66	1.76
Decreased or same number	0.4*	3.4	-1.20	4.04

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

[5]Adjusted percentage calculated from regression coefficients is below zero, outside the range of possible percentages.

[6]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[7]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Nine percent of students beginning at public 4-year institutions were missing this information. See appendix A for details.

[8]Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

NOTE: Respondents could give up to three reasons. Sixty-one percent identified only one of the reasons discussed in this report, and 24 percent did not cite any of these reasons. The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 21.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they were done taking the classes they wanted, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	10.0	10.0	32.87	12.02
First institution type				
Public 2-year	12.0*	9.8	-0.80	4.32
Public or private not-for-profit 4-year	*4.7*	*10.6*	†	†
Last year of enrollment				
1995–96	*14.2*	*10.9*	†	†
1996–97	7.2	10.3	-0.54	3.09
1997–98	1.0*	6.6	-4.25	3.86
First generation status				
First-generation college student	12.1*	11.0	2.14	2.74
Not first-generation	*4.9*	*8.9*	†	†
Age				
18 or younger	4.7*	11.1	0.42	6.53
19–23	5.3*	8.3	-2.32	5.29
24 or older	*23.3*	*10.6*	†	†
Delayed postsecondary enrollment after high school				
Did not delay	*3.8*	*9.0*	†	†
Delayed	15.4*	10.9	1.90	4.33
Attendance intensity				
Full time	5.2*	10.4	-1.32	3.82
Mixed	2.0*	4.8	-6.87	4.39
Part time	*18.7*	*11.7*	†	†
Dependency status				
Dependent	*4.3*	*8.4*	†	†
Independent	19.6*	12.6	4.20	5.35
Employment while enrolled				
Did not work	9.1	6.7	-4.18	3.62
Worked part time	5.4*	5.6	-5.31	14.59
Worked full time	*16.1*	*10.9*	†	†
Ever married				
Never married	*5.8*	*9.6*	†	†
Currently or previously married	23.2*	11.0	1.37	4.67

See footnotes at end of table.

Table 21.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they were done taking the classes they wanted, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Primary role				
Primarily or exclusively student	*7.0*	*10.9*	†	†
Primarily employee	15.5*	8.2	-2.72	3.41
Initial degree objective[5]				
None	*28.8*	*23.5*	†	†
Certificate	17.4	7.0*	-16.55	5.09
Associate's	8.2	6.3*	-17.24	3.94
Bachelor's or transfer to 4-year	2.3*	7.1*	-16.43	4.42
Eventual education expectations[6]				
Don't know	9.5	11.0	4.31	8.06
Less than bachelor's	21.6*	13.0	6.28	4.86
Bachelor's	8.9	10.3	3.62	3.76
Advanced degree	*1.6*	*6.7*	†	†
Grade point average 1995–96				
2.75 or higher	*18.9*	*15.2*	†	†
Under 2.75	5.8*	7.3*	-7.84	2.86
Combined SAT scores[7]				
Not available	*15.2*	*10.9*	†	†
1000 or below	3.1*	9.3	-1.66	3.62
Over 1000	0.7*	5.4	-5.57	5.89
Financial aid amount				
No financial aid	12.1	10.7	-0.18	3.10
$3,000 or less	*11.4*	*10.9*	†	†
$3,001–$6,000	0.5*	6.4	-4.45	5.08
More than $6,000	1.4*	6.1	-4.78	6.95
Financial aid package				
Aided with loans	1.8*	7.1	-3.59	4.55
No aid or aided without loans	*12.1*	*10.7*	†	†
Price of attendance[8]				
$6,000 or less	13.2*	10.2	-2.28	7.15
$6,001–$9,000	4.7	9.6	-2.89	6.85
$9,001–$12,000	2.4	7.2	-5.29	7.25
More than $12,000	*2.3*	*12.5*	†	†

See footnotes at end of table.

Table 21.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they were done taking the classes they wanted, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Social integration				
Low	12.4*	9.9	-0.31	3.50
High	*2.5*	*10.2*	†	†
Academic integration				
Low	14.2*	11.4	3.31	2.93
High	*3.4*	*8.0*	†	†
Residence while enrolled				
School-owned housing	5.8*	15.4	3.27	5.25
With parents or other relatives	4.7*	6.7	-5.51	3.70
Other	*17.3*	*12.2*	†	†
Transfer status				
Did not transfer	*10.7*	*10.1*	†	†
Transferred by 1998	4.4*	9.3	-0.81	4.45
Change in education expectations, 1996 to 1998[9]				
Never expected or decreased from graduate degree expectations	*10.9*	*10.1*	†	†
Always expected or increased to graduate degree expectations	2.0*	10.1	0.00	3.95
Clarified expectations	7.0	7.6	-2.44	8.40
Don't know in 1998	15.1	13.0	2.91	5.44

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

[5]Refers to the degree the student expected to complete at the first postsecondary institution attended as of the 1995–96 base year interview.

[6]Refers to student's response to the question, "What is the highest level of education you ever expect to complete?" when asked during the base year (1995–96) interview.

[7]SAT scores are derived from agency, institution, or student-reported SAT or ACT scores, when available. Nine percent of students beginning at public 4-year institutions were missing this information. See appendix A for details.

[8]Price of attendance refers to the attendance-adjusted student budget. See appendix A for details.

[9]Combines reports of the highest degree respondents expected to complete when asked in 1996 and in 1998. The category "Clarified expectations" refers to students who said "don't know" in 1996, but gave a determinate answer in 1998. See the glossary for further details.

NOTE: Respondents could give up to three reasons. Sixty-one percent identified only one of the reasons discussed in this report, and 24 percent did not cite any of these reasons. The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

Table 22.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because of a change in family status, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	7.6	7.6	29.10	2.95
First institution type				
Public 2-year	5.8*	6.1*	-5.76	1.75
Public or private not-for-profit 4-year	*12.4*	*11.8*	†	†
Gender				
Male	*3.9*	*5.7*	†	†
Female	10.9*	9.4*	3.72	1.44
1994 income quartile				
Lowest quartile	11.8*	11.6*	9.38	2.24
Middle two quartiles	6.9*	7.0*	4.78	2.03
Highest quartile	*2.3*	*2.2*	†	†
Attendance intensity				
Full time	*11.7*	*11.2*	†	†
Mixed	4.8*	2.9*	-8.30	2.10
Part time	4.3*	5.8*	-5.42	1.75
Received financial aid				
No financial aid	5.1*	8.1	0.87	1.57
Received financial aid	*10.1*	*7.2*	†	†
Change in number of dependents				
Never had dependents	3.0*	2.6*	-26.47	2.03
Increased number	*28.9*	*29.1*	†	†
Decreased or same number	5.8*	8.0*	-21.10	2.51

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

NOTE: Respondents could give up to three reasons. Sixty-one percent identified only one of the reasons discussed in this report, and 24 percent did not cite any of these reasons. The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

As shown in table 12, short-term enrollees were more likely to indicate that they left because they needed to work than to give any other reason considered here, and those who began at public 2-year institutions were more likely to give this reason than those at 4-year institutions. This relationship was also found in the multivariate analysis (table 23). In addition, as discussed

Table 23.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they needed to work, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Total	25.6	25.4	0.71	11.97
First institution type				
Public 2-year	29.0*	29.5*	15.13	5.69
Public or private not-for-profit 4-year	*16.8*	*14.4*	†	†
Gender				
Male	*31.3*	*29.6*	†	†
Female	20.5*	21.6*	-7.99	3.97
1994 income quartile				
Lowest quartile	25.3	23.5	6.21	6.17
Middle two quartiles	30.3*	29.2*	11.85	5.65
Highest quartile	*12.8*	*17.3*	†	†
Dependency status				
Dependent	*30.8*	*25.6*	†	†
Independent	19.0*	25.0	-0.61	6.81
Ever married				
Never married	*29.5*	*29.3*	†	†
Currently or previously married	13.4*	13.7*	-15.53	7.62
Any dependents				
No dependents	*29.1*	*23.2*	†	†
Had dependents	15.4*	33.6	10.37	14.45
Single parent				
Not single parent	*27.5*	*26.8*	†	†
Single parent	14.7*	13.2	-13.59	9.42
High school completion type				
Regular diploma	*26.8*	*26.2*	†	†
Other	16.0*	18.9	-7.32	6.71
Residence while enrolled				
School-owned housing	20.7	24.4	0.57	7.58
With parents or other relatives	33.1*	26.8	2.97	5.51
Other	*19.0*	*23.9*	†	†

See footnotes at end of table.

Table 23.—Percentage of 1995–96 beginning postsecondary students who left by spring 1998 because they needed to work, and adjusted percentage after controlling for covariation of variables in the table, by selected characteristics—Continued

	Unadjusted percentage[1]	Adjusted percentage[2]	Least squares coefficient[3]	Standard error[4]
Institution graduation rate[5]				
33 percent or less	28.6*	25.2	13.47	10.39
34–67 percent	23.1*	27.9	16.17	10.58
More than 67 percent	*2.9*	*11.8*	†	†
Change in number of dependents				
Never had dependents	*30.3*	*26.7*	†	†
Increased number	21.2	22.3	-4.45	6.09
Decreased or same number	15.3*	23.2	-3.56	13.64

*$p < .05$.

†Not applicable for the reference group.

[1]The estimates are from the BPS:96/98 Data Analysis System.

[2]The percentages are adjusted for differences associated with other variables in the table (see appendix B).

[3]Least squares coefficient, multiplied by 100 to reflect percentage (see appendix B).

[4]Standard error of least squares coefficient, adjusted for design effect, multiplied by 100 to reflect percentage (see appendix B).

[5]Cohort graduation rate of first-time, full-time students for 150 percent of expected time to degree completion reported by institutions in IPEDS. See appendix A for details.

NOTE: Respondents could give up to three reasons. Sixty-one percent identified only one of the reasons discussed in this report, and 24 percent did not cite any of these reasons. The italicized group in each category is the reference group being compared.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

above, male students and middle income students were more likely than female and higher income students, respectively, to state that they left college because they needed to work. While a number of nontraditional student characteristics were associated with a lower likelihood of leaving for this reason, only marital status was associated with this reason when taking other variables into consideration.

Summary

The institution at which students first enrolled—whether it was a public 2-year or a 4-year institution—was associated with several reasons students gave for their departure. Students who began at public 2-year institutions were more likely than those who began at public or private not-for-profit 4-year institutions to say they left because they needed to work or were done with their intended courses. Short-term enrollees from community colleges were less likely than their counterparts at 4-year institutions to leave college because of academic problems or a change in

family status. Once other factors were taken into account, those who started at community colleges were still more likely than 4-year students to leave because they needed to work and less likely to leave because of a change in family status.

In addition, among students who left without a credential, some of the reasons they gave were consistent with their personal and educational circumstances. Among leavers, students in the middle two income quartiles were more likely than those in the highest quartile to indicate that they left because they needed to work. Furthermore, consistent with their stated educational plans, those leavers with lower degree objectives at the first institution were more likely to say that they left because they were done taking the classes they wanted. However, even among those leavers who had indicated that they did not plan to obtain *any* degree or certificate from their first institution, those who left because they had accomplished their educational goals constituted a minority (29 percent). In other words, lack of specific degree goals alone was not sufficient to explain even a majority of the departures among these students.

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Conclusion

Using data from the 1996–98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98), this report examined factors associated with attrition from postsecondary education within 3 years of students' first enrollment and the reasons these short-term enrollees gave for their departure. It also focused on how the process of departure differed for students who began at public 2-year institutions and those who began at public or private not-for-profit 4-year institutions.

Students who began at public and private not-for-profit 4-year institutions were less likely than those who began at public 2-year institutions to leave postsecondary education. In both bivariate and multivariate analyses, initial degree objectives from the first institution at which the student enrolled were associated with departure in all three types of institutions, with lower objectives generally associated with a higher rate of departure. This result underscores the point that not all students plan to complete college degrees when they enter postsecondary education. Educational plans varied by institution type, with students who began at public 2-year institutions generally having lower educational goals—in terms of both initial objectives and eventual expectations—than those who began at public or private not-for-profit 4-year institutions.

Lower academic performance during the first year of enrollment was associated with a higher rate of attrition at all three types of institutions. In addition, changes in students' educational circumstances and number of dependents from their initial entry into college until 1998 were associated with their departure. Many nontraditional student characteristics were associated with short-term enrollment at all three types of institutions. Many of these relationships were also found when considering other factors associated with attrition.

Some characteristics, however, were associated with departure from 4-year institutions, but not from public 2-year institutions. A higher price of attendance was associated with a lower likelihood of attrition at 4-year institutions, while this relationship was not found among students who began at public 2-year institutions after taking other factors into account. In addition, the institution's graduation rate was associated with departure at 4-year institutions, but not at public 2-year institutions.

Beginning postsecondary students who left without a credential within 3 years were generally more likely to say that they left because they needed to work or for other financial reasons than to give other reasons. Those who began at public 2-year institutions were more likely than those who began at 4-year institutions to say they left because they were done taking the classes they wanted or because they needed to work. Those who began at 4-year institutions, on the other hand, were more likely to say that they left because of academic problems or a change in family status.

Finally, short-term enrollees with lower initial degree objectives were more likely to say that they left because they were done taking the classes they wanted. However, even among those leavers who had indicated that they did not plan to obtain *any* degree or certificate from their first institution, a minority of those who left said they did so because they had accomplished their educational goals. In other words, lack of degree goals alone did not explain most of these students' departures.

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Appendix A—Glossary

This glossary describes the variables used in this report. The variables were taken directly from the BPS:96/98 Data Analysis System, an NCES software application that generates tables from the BPS:96/98 dataset. A description of the DAS software can be found in appendix B.

In the index below, the variables are listed in the order they appear in the report. The glossary is in alphabetical order by variable name.

Glossary Index

Initial Variables
First institution type ..... SECTOR
Year departed/Last year of enrollment PRENYRB1
Analysis weight B98AWT

Student Background Characteristics
Gender ..... SBGENDER
Race/ethnicity ..... SBRACE
1994 income quartile PCTALL2
First-generation status PBEDHI2

Nontraditional Student Characteristics
Age ..... AGE
Delayed enrollment after high school ..... ENDELAY
Attendance intensity ..... ATTNPTRN
Dependency status SBDEP1Y1
Employment while enrolled J1HOURY1
Ever married SBMARRY1
Single parent 1995–96 ..... SBSINGY1
Any dependents SBDPNY1
High school completion type ..... HSDIPLOM
Primary role SEROLEY1

Academic Characteristics
Eventual education expectations EPHDEGY1
Initial degree objective DGEXPY1
Primary reason for enrolling ..... SBENRPUR
First term enrolled ..... ATTEND
Any remedial courses REMED2
Grade-point average ..... GPA
Combined SAT scores ..... TESATDER

Financial Aid Characteristics
Received financial aid/Financial aid amount AATOTLY1
Financial aid package ..... LOANAID
Price of attendance ..... BUDGETAJ

Institution-Related Characteristics
Social integration ..... SOCINT
Academic integration ..... ACADINT
Residence while enrolled 1995–96 ..... HTENRLY1
Graduation rate 2000 ..... GRS2000

Change in Family and Education Circumstances
Transfer status PRTRTYB1
Change in education expectations ..... EDEXPCH
Change in number of dependents ..... DEPCH

Reasons for Departure
Academic problems RLACADB1
Done taking desired classes RLDONEB1
Not satisfied RLNOTSB1
Taking time off RLTIMEB1
Change in family status RLFAMIB1
Conflicts at home/personal problems RLHOMEB1
Conflicts with job/military RLJOBB1
Needed to work RLWORKB1
Other financial reasons RLFINAB1

DAS variable

Received financial aid/Financial aid amount **AATOTLY1**

The total amount of financial aid received during 1995–96. Includes all grant, loan, work study, and other assistance, including PLUS loans, veteran's and military benefits, vocational rehabilitation, JTPA, employer aid, and private aid. This variable is used to distinguish aid recipients from non-recipients (Received financial aid) as well as amounts of financial aid received for those who did receive aid (Financial aid amount).

Received financial aid
No financial aid
Received financial aid

Financial aid amount

Public 4-year	Private not-for-profit 4-year	Public 2-year
$3,000 or less	$6,000 or less	$3,000 or less
$3,001–$6,000	$6,001–$12,000	More than $3,000
More than $6,000	More than $12,000	

Academic integration **ACADINT**

This variable indexes the overall level of academic integration the respondent experienced at the NPSAS institution during the 1995–96 academic year. It is derived based on the average of the responses indicating how often they had done the following things: participated in study groups, had social contact with faculty, met with an academic advisor, or talked with faculty about academic matters outside of class. Non-missing values for these items were averaged and the average multiplied by 100. For this report, scores were divided into two groups at the mean.

Low
High

Age **AGE**

Indicates student's age on 12/31/95. Calculated from date of birth.

18 or younger
19–23
24 or older

First term enrolled **ATTEND**

Indicates the student's attendance status during September or October 1995. This variable was used to determine whether students began postsecondary education in the fall term or another term.

Fall	Full-time
	Part-time, at least half time
	Part-time, less than half time
	Enrolled, intensity unknown
Other	Not enrolled during the fall

DAS variable

Attendance intensity **ATTNPTRN**

Indicates a student's attendance intensity during 1995–96. Attendance intensity refers to the student's full-/part-time or mixed attendance while enrolled. Students were considered to have enrolled exclusively full time if they were enrolled full time during all enrolled months. Students were considered to have enrolled mixed full time/part time if they were enrolled both full time and part time during enrolled months. Students were considered to have enrolled exclusively half time if they were enrolled half time during all enrolled months. Students were considered to have enrolled exclusively less than half time if they were enrolled for less than half time during all enrolled months.

Full time	Exclusively full-time
Mixed	Mixed full-time/part-time
Part time	Exclusively half-time
	Exclusively less-than-half-time
	Mixed half-time/less-than-half-time
	Other

Analysis weight **B98AWT**

Statistical analysis weight for the analysis of data available for respondents to the BPS first follow-up survey in 1998 (BPS:96/98). This weight was used for all analyses in this report.

Price of attendance **BUDGETAJ**

Indicates attendance-adjusted student budget. Indicates total student budget (attendance adjusted) at the NPSAS School. BUDGETAJ estimates actual cost based on tuition paid, number of months enrolled, and attendance status while enrolled. Non-tuition costs are reduced for half-time (75%), unknown (50%), and less than half-time (25%) status, and the actual tuition is added to the estimated non-tuition costs.

Public 4-year	Private not-for-profit 4-year	Public 2-year
$6,000 or less	$15,000 or less	$3,000 or less
$6,001–$9,000	$15,001–$20,000	$3,001–$6,000
$9,001–$12,000	$20,001–$25,000	More than $6,000
More than $12,000	More than $25,000	

Change in number of dependents **DEPCH**

This variable indicates whether and how the number of non-spousal dependents of the respondent had changed between the base year interview and the spring 1998 follow-up. It is derived from base year and first follow-up variables based on whether they had no dependents at either time, the same number of dependents at both times, or an increase or decrease in the number of dependents between the two time periods.

Never had dependents	Never had dependents
Increased number	Increased from no dependents
	Increased number of dependents
Decreased or same number	Decreased to no dependents
	Decreased number of dependents
	Same number of dependents

DAS variable

Initial degree objective **DGEXPY1**

Highest degree planned at the first institution attended in 1995–96. Responses for any degree of BA or higher plus those planning to transfer to a 4-year institution were coded as bachelor's/transfer. Those planning no degree at that institution or planning to transfer from one less-than-4-year institution to another were also coded as having no degree objective. Responses of higher degrees than were offered at the institution were assumed to be planning to transfer. For analysis of students at public and private not-for-profit 4-year institutions, the first three categories are collapsed to one category, "Less than bachelor's."

None
Certificate
Associate's
Bachelor's or transfer to 4-year

Change in educational expectations **EDEXPCH**

This variable indicates what combination of education expectations the respondent gave in the base year interview (EPHDEGY1) and the spring 1998 follow-up (EPHDEGB1). For each year, the following responses were possible: Don't know; Less than bachelor's degree (Less than 4 years of college and no degree or certificate, Certificate, Associate's degree); Bachelor's degree (Bachelor's degree, Completion of post-baccalaureate program); and Advanced degree (Master's degree, Advanced degree—doctoral or first-professional program). All combinations of these responses for the 2 years are coded in this variable.

Never or decreased from graduate degree	Both less than bachelor's
	Less than bachelor's/bachelor's
	Bachelor's/less than bachelor's
	Both bachelor's
	Advanced degree/less than bachelor's
	Advanced degree/bachelor's
Always or increased to graduate degree	Less than bachelor's/advanced degree
	Bachelor's/advanced degree
	Both advanced degree
Clarified expectations	Don't know/less than bachelor's
	Don't know/bachelor's
	Don't know/advanced degree
Don't know in 1998	Both don't know
	Less than bachelor's/don't know
	Bachelor's/don't know
	Advanced degree/don't know

Delayed enrollment after high school **ENDELAY**

Indicates whether respondents delayed enrollment in postsecondary education after high school, as determined by receipt of high school diploma prior to 1995 or reaching age 20 before December 31, 1995.

Did not delay
Delayed

DAS variable

Eventual education expectations **EPHDEGY1**

Indicates the highest degree the student ever expected to earn as of the base year interview, with the question, "What is the highest level of education you ever expect to complete?"

Don't know	Don't know
Less than bachelor's	Less than 4-years—no degree or certificate
	Certificate
	Associate's degree
Bachelor's	Bachelor's degree
	Completion of post-baccalaureate program
Advanced degree	Master's degree
	Advanced degree—doctoral or first-professional

Grade-point average **GPA**

Indicates student GPA during 1995–96. Recode of student's GPA as reported by the institution into standardized 0–4.0 scale. The GPA format used by each institution was identified and recoded into the 0–4.0 scale. If not available the student-reported categorical GPA was used.

2.75 or higher	Mostly A's
	A's and B's
	Mostly B's
Under 2.75	B's and C's
	Mostly C's
	C's and D's
	Mostly D's or below

Graduation rate 2000 **GRS2000**

Cohort graduation rate of first-time, full-time students for 150 percent of expected time for completion of the highest degree at the institution (3 years for associate's and 6 years for bachelor's degrees) reported by institutions in the 2000 IPEDS. Cut points for each type of institution were selected to produce meaningful analysis categories with sufficient cases for statistical testing.

Public 4-year	Private not-for-profit 4-year	Public 2-year
33 percent or less	33 percent or less	16 percent or less
34–67 percent	34–67 percent	17–33 percent
More than 67 percent	More than 67 percent	More than 33 percent

DAS variable

High school completion type **HSDIPLOM**

Indicates type of high school completion reported by the institution or, if not available, by the student, in response to the question "Did you receive a high school diploma, pass a General Educational Development (GED) test, or receive a high school completion certificate?" Students who attended foreign high schools were assigned to the category of completion certificate.

Regular diploma	Receive a high school diploma
Other	Pass a general educational degree
	Receive a high school completion certificate
	Did not complete high school

Residence while enrolled 1995–96 **HTENRLY1**

Type of residence while enrolled during the 1995–96 academic year. Based on response to the question, "While enrolled during 1995–96, where did you live?"

School-owned housing	On-campus in school-owned housing
	Off-campus in school-owned housing
With parents or other relatives	With your parents or guardian
	With other relatives
Other	In apartment or house other than with parents
	Some place else

Employment while enrolled **J1HOURY1**

Indicates the average hours the student worked per week while enrolled during 1995–96, based on student's report. The variable was imputed to zero if student held no jobs during 1995–96. Average hours greater than 60 were recoded to 60.

Did not work	0 hours
Worked part time	Less than 35 hours
Worked full time	35 hours or more

Financial aid package **LOANAID**

Indicates whether a student received only loan aid including PLUS loans, a combination of loan and non-loan aid, or only non-loan aid such as grants or work-study.

No aid or aided without loans	
No aid	No aid
Aided, no loans	Aided, no loans
Aided with loans	Loans and other aid
	Loans only

DAS variable

First-generation status **PBEDHI2**

Indicates parents' highest level of education, recoded using categories that appear on the FAFSA.

First-generation college student	Did not complete high school
	Completed high school or equivalent
Not first-generation	Some college or more

1994 income quartile **PCTALL2**

Indicates income percentiles for all students. Equal to the proportion of the sample who had an income lower than that recorded for the student in question. Calculated separately for dependent and independent students; each ranking thus compares the student only to other students of the same dependency status. Uses parents' income if student is dependent, student's own income if student is independent.

Lowest quartile	Below 25
Middle two quartiles	26–75
Highest quartile	More than 75

Transfer status **PRTRTYB1**

Transfer status is determined based on this variable identifying the type of first transfer among students who transferred by June 1998. Immediate transfers are those occurring without a break in enrollment of more than 4 months, and thus occur within the first enrollment spell. Delayed transfers are those which occur following a stopout of 5 or more months. Upward or lateral transfers are those involving a move from one institution to another with an equal or higher level. A downward transfer is a move from one institution to a lower level institution.

Did not transfer	Did not transfer by spring 1998
Transferred by 1998	Immediate, downward transfer
	Immediate, upward/lateral transfer
	Delayed, downward transfer
	Delayed, upward/lateral transfer

Year departed/Last year of enrollment **PRENYRB1**

Variable identifies whether students had attained a degree by June 1998, and if not, their last academic year of enrollment in postsecondary education. The variable is used both to determine the overall percentage of those who left college without a credential and without returning and the academic year of their last enrollment.

1995–96
1996–97
1997–98

DAS variable

Any remedial courses **REMED2**

Indicates whether student reported having taken any remedial or developmental courses in language, math, reading, or writing in the 1995–96 academic year. Does not include courses in study skills.

No remedial courses
Any remedial courses

Academic problems **RLACADB1**

Indicates whether a student who left postsecondary education by spring 1998 left because of academic problems. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses collected (volunteered) and coded into proper category. The percentage of students who reported this category was used in this report.

Done taking desired classes **RLDONEB1**

Indicates whether a student who left postsecondary education by spring 1998 left because he or she was done taking desired classes. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Change in family status **RLFAMIB1**

Indicates whether a student who left postsecondary education by spring 1998 left because of a change in family status. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Other financial reasons **RLFINAB1**

Indicates whether a student who left postsecondary education by spring 1998 left because of other financial reasons. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Conflicts at home/personal problems **RLHOMEB1**

Indicates whether a student who left postsecondary education by spring 1998 left because of conflicts with demands at home or personal problems. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

DAS variable

Conflicts with job/military **RLJOBB1**

Indicates whether a student who left postsecondary education by spring 1998 left because of conflicts with a job or military service. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Not satisfied **RLNOTSB1**

Indicates whether a student who left postsecondary education by spring 1998 left because he or she was not satisfied with the program, school, campus, or facility. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Taking time off **RLTIMEB1**

Indicates whether a student who left postsecondary education by spring 1998 left because he or she was taking time off from his or her studies. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Needed to work **RLWORKB1**

Indicates whether a student who left postsecondary education by spring 1998 left because he or she needed to work. Is based on student response to the question, "You told me earlier that you're no longer enrolled at [most recent institution]. Why did you leave there?" Up to three responses were collected (volunteered) and coded into the proper category. The percentage of students who reported this category was used in this report.

Dependency status **SBDEP1Y1**

This variable indicates students' dependency status. Students were considered independent if they were 1) age 24 or older as of 12/31/1995 (born before January 1, 1972); 2) a veteran of the U.S. Armed Forces; 3) enrolled in a graduate or professional program beyond a bachelor's degree in 1995–96; 4) married; 5) an orphan or ward of the court; or 6) had legal dependents, other than spouse. Where not available, data from the 1996–97 FAFSA was used.

Dependent
Independent

Any dependents **SBDPNY1**

Whether the respondent had any dependents as of fall 1995 was determined using this variable providing the number of non-spouse dependents of the respondent. Based on whether dependents were reported on the FAFSA and family size, or the sum of dependents reported in response to the question "How many people were you supporting at that time (July 1,1995)?"

No dependents
Had dependents

DAS variable

Primary reason for enrolling **SBENRPUR**

This question only applies to respondents enrolled at 2-year or less-than-2-year institutions in 1995–96. The wording of this question varied depending on the students' plans regarding the receipt of a degree from the institution at which they were sampled. Students who indicated they did not plan to receive a degree or certificate or they planned to receive a certificate were asked the question "Are you enrolled for a job-related reason or some other reason?" However, students who indicated they planned to transfer or planned to obtain a degree from this institution were asked "What is your primary reason for enrolling in this school?"

Job skills	Job skills
Degree or certificate	Degree or certificate
Transfer to 4-year	Transfer to a 4-year school
Other transfer	Transfer to a 2-year school
	Transfer but not sure where
Personal enrichment	Personal enrichment

Gender **SBGENDER**

This variable indicates the student's gender based on student- or institution-reported gender, or gender reported on the FAFSA. Where gender information was not available from one of these sources, it was imputed based on student's first name.

Male
Female

Ever married **SBMARRY1**

Indicates student's marital status when applied for financial aid 1995–96. Derived using student's reported marital status from the FAFSA, marital status reported by the student in response to the question "What was your marital status on July 1, 1995?", or institution-reported marital status.

Never married	Single, never married
Currently or previously married	Married
	Separated
	Divorced
	Widowed

Race/ethnicity **SBRACE**

Indicates student's race/ethnicity.

White, non-Hispanic	White, non-Hispanic
Black, non-Hispanic	Black, non-Hispanic
Hispanic	Hispanic
Asian/Pacific Islander	Asian/Pacific Islander
Other	Includes American Indian/Alaska Native and Other

DAS variable

Single parent 1995–96 **SBSINGY1**

Indicates student was a single parent (had dependents and was not married) during 1995–96.

Not single parent
Single parent

First institution type **SECTOR**

Indicates the level and control of the institution at which the student was sampled for the NPSAS survey. Constructed by combining the level of the NPSAS institution and the control of that institution. A small number of cases were reclassified in November 2000. Only the categories listed below were used in this report; most analyses in this report also exclude private not-for-profit 2-year institutions.

Public 4-year
Private not-for-profit 4-year
Public 2-year
Private not-for-profit 2-year

Primary role **SEROLEY1**

For students who were working while enrolled during 1995–96, their response to the question: "While you were enrolled and working, would you say you were primarily a student working to meet expenses or an employee who's decided to enroll in school?" Imputed to "exclusively a student" if student was not employed during 1995–96.

Primarily or exclusively student
Did not work while enrolled — Did not work while enrolled
Primarily student — Student working to meet expenses
Primarily employee — Employee who has decided to enroll

Social integration **SOCINT**

This variable indexes the overall level of social integration the respondent experienced at the NPSAS institution during the 1995–96 academic year. It is derived based on the average of the responses indicating how often they had done the following items: attended fine arts activities, participated in intramural or nonvarsity sports, participated in varsity or intercollegiate sports, participated in school clubs, or gone places with friends from school. Non-missing values for these items were averaged and the average multiplied by 100. For this report, scores were divided into two groups at the mean.

Low
High

DAS variable

Combined SAT scores **TESATDER**

SAT combined score, derived as either the sum of SAT verbal and math scores or the ACT composite score converted to an estimated SAT combined score using a concordance table from G. Marco, A. Abdel-fattah, and P. Baron, *Methods Used to Establish Score Comparability on the Enhanced ACT Assessment and the SAT* (College Board Report No. 92-3; New York: College Entrance Examination Board, 1992). Constructed from agency-reported, institution-reported, or student-reported SAT or ACT scores. All SAT scores are provided in original (not re-centered) scale.

Not available
1,000 or below
Over 1,000

Appendix B—Technical Notes

The Beginning Postsecondary Students Longitudinal Study (BPS:96/98)

The Beginning Postsecondary Students Longitudinal Study (BPS) is composed of the students who participated in the 1995–96 National Postsecondary Student Aid Study (NPSAS:96) who enrolled in postsecondary education for the first time in 1995–96. The National Postsecondary Student Aid Study (NPSAS) is a comprehensive nationwide study conducted by the U.S. Department of Education's National Center for Education Statistics (NCES) to determine how students and their families pay for postsecondary education.[11] It also describes demographic and other characteristics of students. The study is based on a nationally representative sample of all students in postsecondary education institutions, including undergraduate, graduate, and first-professional students. For NPSAS:96, information was obtained from more than 830 postsecondary institutions on approximately 44,500 undergraduate, 8,700 graduate, and 2,500 first-professional students. They represented about 16.7 million undergraduates, 2.4 million graduate students, and 300,000 first-professional students who were enrolled at some time between July 1, 1995 and June 30, 1996.

The BPS sample consists of approximately 12,000 students identified in NPSAS:96 as beginning postsecondary education for the first time. Unlike other NCES longitudinal surveys (such as High School and Beyond), which are based on age-specific cohorts, the BPS sample is more likely to include "nontraditional" postsecondary students, such as those who have delayed their education due to financial need or family responsibilities. The First Follow-up of the BPS cohort (BPS:96/98) was conducted in the spring and summer of 1998, approximately 3 academic years after they first enrolled. Approximately 10,300 of the students who first began in 1995–96 were located and interviewed in the First Follow-up. The weighted effective response rate in the 1998 follow-up of the NPSAS:96 for BPS-eligible respondents was 85.9 percent. The overall weighted response rate (including those who were nonrespondents in NPSAS:96) for the BPS:96/98 First Follow-up was 79.8 percent.[12]

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[11]For more information on the NPSAS survey, consult U.S. Department of Education, National Center for Education Statistics, *Methodology Report for the 1995–96 National Postsecondary Student Aid Study* (NCES 98–073) (Washington, DC: 1997). Additional information is also available at the NPSAS Web site: *http://nces.ed.gov/npsas*.

[12]For more information on the BPS:96/98 survey, consult U.S. Department of Education, National Center for Education Statistics, *Beginning Postsecondary Students Longitudinal Study First Follow-up 1996–98, Methodology Report* (NCES 2000–157) (Washington, DC: 2000).

The BPS:96/98 Data Analysis System includes sample weights for cross-sectional analysis of the students in 1995–96 (B98IAWT) and longitudinal analysis of the sample through 1998 (B98AWT). All of the tables and estimates in this report used the longitudinal analysis weight.

Accuracy of Estimates

The statistics in this report are estimates derived from a sample. Two broad categories of error occur in such estimates: sampling and nonsampling errors. Sampling errors occur because observations are made only on samples of populations rather than entire populations. Nonsampling errors occur not only in sample surveys but also in complete censuses of entire populations. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all sample members (e.g., some students or institutions refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and imputing missing data.

Data Analysis System

The estimates presented in this report were produced using the BPS:96/98 Data Analysis System (DAS). The DAS software makes it possible for users to specify and generate their own tables from the BPS:96/98 data. With the DAS, users can replicate or expand upon the tables presented in this report. In addition to the table estimates, the DAS calculates proper standard errors[13] and weighted sample sizes for these estimates. For example, table B1 contains standard errors that correspond to table 1 of this report, and was generated by the DAS. If the number of valid cases is too small to produce a reliable estimate (fewer than 30 cases), the DAS generates the message "low-N" instead of the estimate.

In addition to tables, the DAS will also produce a correlation matrix of selected variables to be used for linear regression models. Included in the output with the correlation matrix are the design effects (DEFTs) for each variable in the matrix. Since statistical procedures generally compute regression coefficients based on simple random sample assumptions, the standard errors must be adjusted with the design effects to take into account the BPS:96/98 stratified sampling method.

[13]The BPS:96/98 samples are not simple random samples, and therefore, simple random sample techniques for estimating sampling error cannot be applied to these data. The DAS takes into account the complexity of the sampling procedures and calculates standard errors appropriate for such samples. The method for computing sampling errors used by the DAS involves approximating the estimator by the linear terms of a Taylor series expansion. The procedure is typically referred to as the Taylor series method.

Table B1.—Standard errors for table 1: Percentage of 1995–96 beginning postsecondary students who left without a credential and did not return by spring 1998, by first institution type

	Total	Year departed		
		1995–96	1996–97	1997–98
Total	1.2	1.1	0.8	0.6
First institution type				
Public 4-year	1.0	0.8	0.7	0.5
Private not-for-profit 4-year	1.2	0.9	0.8	0.6
Public 2-year	2.0	1.9	1.4	1.1
Private not-for-profit 2-year	3.8	2.4	2.5	2.1

NOTE: Excludes students who began at less-than-2-year institutions and private for-profit institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1996/98 Beginning Postsecondary Students Longitudinal Study (BPS:96/98).

The DAS can be accessed electronically at http://nces.ed.gov/DAS. For more information about the BPS:96/98 Data Analysis System, contact:

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Statistical Procedures

Differences Between Means

The descriptive comparisons were tested in this report using Student's *t* statistic. Differences between estimates are tested against the probability of a Type I error,[14] or significance level. The significance levels were determined by calculating the Student's *t* values for the differences between each pair of means or proportions and comparing these with published tables of significance levels for two-tailed hypothesis testing.

[14]A Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn when no such difference is present.

Student's t values may be computed to test the difference between estimates with the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \quad (1)$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors. This formula is valid only for independent estimates. When estimates are not independent, a covariance term must be added to the formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2 - 2(r)se_1\, se_2}} \quad (2)$$

where r is the correlation between the two variables.[15] The denominator in this formula will be at its maximum when the two estimates are perfectly negatively correlated; that is, when $r = -1$. This means that a conservative dependent test may be conducted by using -1 for the correlation in this formula, or

$$t = \frac{E_1 - E_2}{\sqrt{(se_1)^2 + (se_2)^2 + 2se_1 se_2}}. \quad (3)$$

The estimates and standard errors are obtained from the DAS.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large t statistics may appear to merit special attention. This can be misleading since the magnitude of the t statistic is related not only to the observed differences in means or percentages but also to the number of respondents in the specific categories used for comparison. Hence, a small difference compared across a large number of respondents would produce a large t statistic.

A second hazard in reporting statistical tests for each comparison occurs when making multiple comparisons among categories of an independent variable. For example, when making paired comparisons among different levels of income, the probability of a Type I error for these comparisons taken as a group is larger than the probability for a single comparison. When more than one difference between groups of related characteristics or "families" are tested for

[15]U.S. Department of Education, National Center for Education Statistics, *A Note from the Chief Statistician*, no. 2, 1993.

statistical significance, one must apply a standard that assures a level of significance for all of those comparisons taken together.

Comparisons were made in this report only when $p \leq .05/k$ for a particular pairwise comparison, where that comparison was one of k tests within a family. This guarantees both that the individual comparison would have $p \leq .05$ and that for k comparisons within a family of possible comparisons, the significance level for all the comparisons will sum to $p \leq .05$.[16]

For example, in a comparison of the percentages of males and females leaving postsecondary education without a degree, only one comparison is possible (males versus females). In this family, k=1, and the comparison can be evaluated without adjusting the significance level. When respondents are divided into five racial/ethnic groups and all possible comparisons are made, then k=10, and the significance level of each test must be $p \leq .05/10$, or $p \leq .005$. The formula for calculating family size (k) is as follows:

$$k = \frac{j(j-1)}{2} \tag{4}$$

where j is the number of categories for the variable being tested. In the case of race/ethnicity, there are five racial/ethnic groups (American Indian/Alaska Native; Asian/Pacific Islander; Black, non-Hispanic; Hispanic; White, non-Hispanic), so substituting 5 for j in equation 4,

$$k = \frac{5(5-1)}{2} = 10$$

Linear Trends

While many descriptive comparisons in this report were tested using Student's t statistic, some comparisons among categories of an ordered variable with three or more levels involved a test for a linear trend across all categories, rather than a series of tests between pairs of categories. In this report, when differences among percentages were examined relative to a variable with ordered categories, Analysis of Variance (ANOVA) was used to test for a linear relationship between the two variables. To do this, ANOVA models included orthogonal linear contrasts corresponding to successive levels of the independent variable. The squares of the Taylorized standard errors (that is, standard errors that were calculated by the Taylor series method), the variance between the means, and the unweighted sample sizes were used to

[16]The standard that $p \leq .05/k$ for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to $p \leq .05$. For tables showing the t statistic required to ensure that $p \leq .05/k$ for a particular family size and degrees of freedom, see Olive Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association* 56 (1961): 52–64.

partition total sum of squares into within- and between-group sums of squares. These were used to create mean squares for the within- and between-group variance components and their corresponding F statistics, which were then compared with published values of F for a significance level of .05.[17] Significant values of both the overall F and the F associated with the linear contrast term were required as evidence of a linear relationship between the two variables. Means and Taylorized standard errors were calculated by the DAS. Unweighted sample sizes are not available from the DAS and were provided by NCES.

Adjustment of Means to Control for Background Variation

Many of the independent variables included in the analyses in this report are related, and to some extent the pattern of differences found in the descriptive analyses reflect this covariation. For example, when examining the propensity to leave postsecondary education without a credential by institution type, it is possible that some of the observed relationship is due to differences in other factors related to institution type, such as nontraditional student characteristics, grade point average, and so on. However, if nested tables were used to isolate the influence of these other factors, cell sizes would become too small to identify the significant differences in patterns. When the sample size becomes too small to support controls for another level of variation, other methods must be used to take such variation into account. The method used in this report estimates adjusted means with regression models, an approach sometimes referred to as communality analysis.

For the multivariate analyses reported here, multiple linear regression was used to obtain means that were adjusted for covariation among a list of control variables.[18] Each independent variable is divided into several discrete categories. To find an estimated mean value on the dependent variable for each category of an independent variable, while adjusting for its covariation with other independent variables in the equation, substitute the following in the equation: (1) a one in the category's term in the equation, (2) zeroes for the other categories of this variable, and (3) the mean proportions for all other independent variables. This procedure holds the impact of all remaining independent variables constant, and differences between adjusted means of categories of an independent variable represent hypothetical groups that are balanced or proportionately equal on all other characteristics included in the model as independent variables.

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[17]More information about ANOVA and significance testing using the F statistic can be found in any standard textbook on statistical methods in the social and behavioral sciences.

[18]For more information about least squares regression, see Michael S. Lewis-Beck, *Applied Regression: An Introduction*, Vol. 22 (Beverly Hills, CA: Sage Publications, Inc., 1980); and William D. Berry and Stanley Feldman, *Multiple Regression in Practice*, Vol. 50 (Beverly Hills, CA: Sage Publications, Inc., 1987).

For example, consider a hypothetical case in which two variables, age and gender, are used to describe an outcome, *Y* (such as early departure). The variables age and gender are recoded into a dummy variable representing age, *A*, and a dummy variable representing gender, *G*:

Age	*A*
Less than 20 years old	0
20 years or older	1

and

Gender	*G*
Female	1
Male	0

The following regression equation is then estimated using the correlation matrix output from the DAS as input data for standard regression procedures:

$$\hat{Y} = a + b_1 A + b_2 G \tag{5}$$

To estimate the adjusted mean for any subgroup evaluated at the mean of all other variables, one substitutes the appropriate values for that subgroup's dummy variables (1 or 0) and the mean for the dummy variable(s) representing all other subgroups. For example, suppose *Y* represents early departure from postsecondary education, which is being described by age (*A*) and gender (*G*), coded as shown above. Suppose the unadjusted mean values of these two variables are as follows:

Variable	Mean
A	0.355
G	0.521

Next, suppose the regression equation results are as follows:

$$\hat{Y} = 0.15 + 0.17A + 0.01G \tag{6}$$

To estimate the adjusted value for older students, one substitutes the appropriate parameter estimates and variable values into equation 6.

Variable	Parameter	Value
a	0.15	—
A	0.17	1.000
G	0.01	0.521

This results in the following equation:

$$\hat{Y} = 0.15 + (0.17)(1) + (0.01)(0.521) = 0.325$$

In this case, the adjusted mean for older students is 0.325 and represents the expected outcome for older students who resemble the average student across the other variables (in this example, gender). In other words, the adjusted percentage of older students who left postsecondary education after controlling for gender is 32.5 percent (0.325 x 100 for conversion to a percentage).

It is relatively straightforward to produce a multivariate model using the DAS, since one of the DAS output options is a correlation matrix, computed using pairwise missing values. In regression analysis, there are several common approaches to the problem of missing data. The two simplest are pairwise deletion of missing data and listwise deletion of missing data. In pairwise deletion, each correlation is calculated using all of the cases for the two relevant variables. For example, in a regression analysis that uses variables X1, X2, and X3, the regression is based on the correlation matrix of the variables X1, X2, and X3. In pairwise deletion, the correlation between X1 and X2 is based on the nonmissing cases for X1 and X2. Cases missing on either X1 or X2 would be excluded from the calculation of the correlation. In listwise deletion, the correlation between X1 and X2 would be based on the nonmissing values for X1, X2, and X3. That is, all of the cases with missing data on any of the three variables would be excluded from the analysis.

The correlation matrix can be used by most statistical software packages as the input data for least squares regression. That is the approach used for this report, with an additional adjustment to incorporate the complex sample design into the statistical significance tests of the parameter estimates (described below).[19]

Most statistical software packages assume simple random sampling when computing standard errors of parameter estimates. Because of the complex sampling design used for the BPS:96/98 survey, this assumption is incorrect. A better approximation of their standard errors is to multiply each standard error by the design effect associated with the dependent variable (DEFT),[20] where the DEFT is the ratio of the true standard error to the standard error computed under the assumption of simple random sampling. It is calculated by the DAS and produced with the correlation matrix output.

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[19]Although the DAS simplifies the process of making regression models, it also limits the range of models. Analysts who wish to estimate other types of models, such as logit models, can apply for a restricted data license from NCES.

[20]The adjustment procedure and its limitations are described in C.J. Skinner, D. Holt, and T.M.F. Smith, eds., *Analysis of Complex Surveys* (New York: John Wiley & Sons, 1989).

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